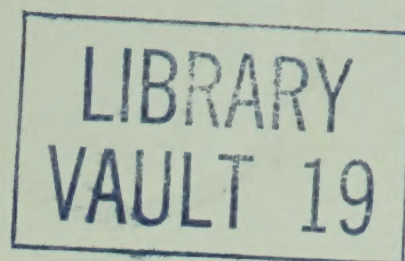


CA2 ALID 800
1970 R21
c. 2



W. J. YURKO



REPORT OF THE ADVISORY COMMITTEE

ON THE

REGULATION OF THE ELECTRIC POWER INDUSTRY

IN

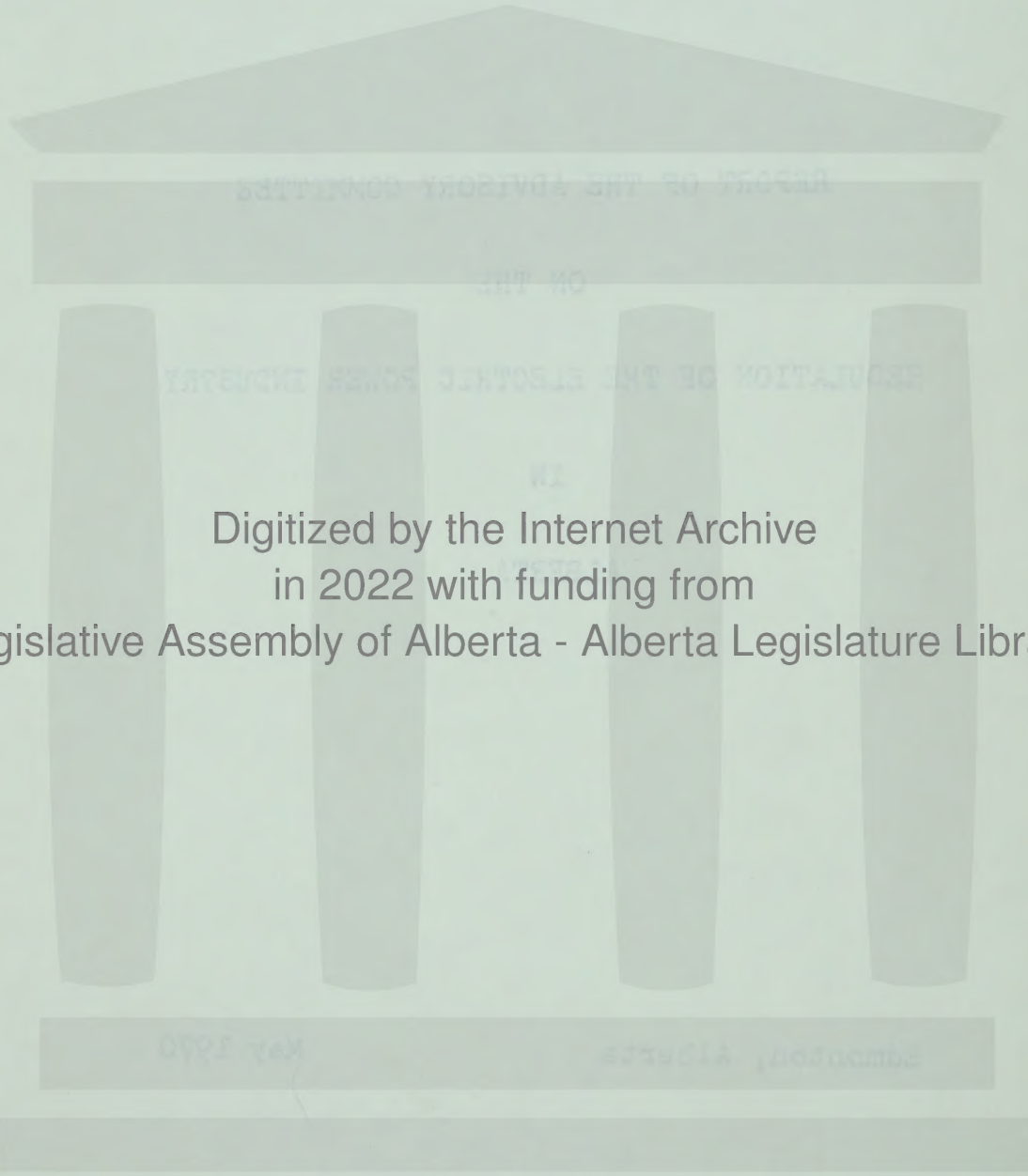
ALBERTA

May 1970

REPORT OF THE ADVISORY COMMITTEE
ON THE
REGULATION OF THE ELECTRIC POWER INDUSTRY
IN
ALBERTA

Edmonton, Alberta

May 1970



Digitized by the Internet Archive
in 2022 with funding from
Legislative Assembly of Alberta - Alberta Legislature Library

The Honourable R. S. Ratzlaff
Minister of Industry and Tourism
Province of Alberta

Sir:

The Advisory Committee on the Regulation
of the Electric Power Industry in Alberta has the
honour to submit herewith its findings and recom-
mendations.

.....*G. L. Burton*.....
Chairman

.....*W. J. Major*.....
Member

.....*W. H. McIsaac*.....
Member

Edmonton
May 1970

Acknowledgement

The Advisory Committee wishes to record its appreciation to the interested parties and their counsel. Without exception they prepared relevant and well documented briefs and presented able witnesses to support those briefs.

PROCEEDINGS BEFORE THE COMMITTEE

R. W. Macaulay, Esq., Q.C.
G. J. Bryan, Esq., Q.C.
A. F. Macdonald, Esq., Q.C.
J. M. Farley, Esq.....For the City of Edmonton
J. H. Laycraft, Esq., Q.C.For Calgary Power Ltd.
B. V. Massie, Esq., Q.C.....For Canadian Utilities Ltd.
and Northland Utilities Ltd.
S. J. Helman, Esq., Q.C.
J. D. Salmon, Esq.....For the City of Calgary
J. W. Beames, Esq.....For the City of Red Deer
F. M. Pritchard, Esq.....For the City of Lethbridge
H. D. Williamson, Esq.....For Alberta Government
Telephones
W. L. Scott, Esq.....For the City of Medicine Hat

TABLE OF CONTENTS

	<u>Page</u>
Letter of Transmittal	(i)
Acknowledgment	(ii)
Table of Contents	(iii)
Order-in-Council as Amended	(vii)
Preface	(ix)
Summary of Recommendations	(xiv)
Chap. 1 The Structure of the Electrical Industry in Alberta	1
(a) Privately-owned Power Companies	1
(b) Municipal Electric Utilities.	5
(c) Capability, Output and Generating Equipment	6
(d) The Power System.	10
(e) Rural Electrification	12
(f) Growth of the System.	14
(g) Utility Rates	16
Chap. 2 The Purpose and Principles of Regulation . .	21
(a) The Function of Prices.	21
(b) The Economic Role of Regulation	23
(c) The Function of Utility Rates	25
(d) The Rate Base and the Rate of Return. .	29
(e) Depreciation.	38
(f) Compensation Upon Take-over of Entire System.	46
(g) Compensation Upon Partial Take-over at Expiration of a Franchise	48

	(h) Franchises and Allocation of Supply Areas	55
	(i) Control and Integration of the Power System.	59
	(j) Uniform Accounting Practices.	63
Chap. 3	Regulatory Procedures in Some Other Jurisdictions	66
	(a) Regulation by the Federal Government.	66
	(b) Regulation by Provincial Governments.	68
	(i) Newfoundland.	68
	(ii) Prince Edward Island.	70
	(iii) Nova Scotia	71
	(iv) New Brunswick	75
	(v) Quebec.	78
	(vi) Ontario	81
	(vii) Manitoba.	85
	(viii) Saskatchewan.	87
	(ix) British Columbia.	89
	(x) Summary	91
	(c) Regulation in the United States	94
	(i) The State Public Utilities Commission.	95
	(ii) Regulation at the Federal Level	99
Chap. 4	The Regulatory Structure in Alberta.	102
	(a) The Regulation of Municipal Utilities	102
	(i) Rates	104
	(ii) Service Areas	109
	(iii) Generating Capacity	111

(b)	Regulation of Investor-owned Non-Water Power Licensees	111
(c)	Regulation of Water Power Licensees . .	112
(d)	Expropriation	118
	(i) Crown Expropriation	119
	(ii) Expropriation by a Municipality	120
	(iii) Expropriation by Companies. . .	121
(e)	Provisions for Appeal	124
Chap. 5	The Supply of Power Within the Corporate Limits of Municipalities	126
Chap. 6	Conclusions and Recommendations.	146
	(a) Regulation of Municipal Utilities . . .	146
	(b) Service in Areas Now Annexed to a Municipality.	147
	(c) Service in Areas Likely to be Annexed .	149
	(d) Compensation Upon Partial Take-over . .	159
	(e) Renewal of Franchises	161
	(f) Regulation Under the Water Resources Act	161
	(g) The Power Commission as an Operating Authority	164
	(h) The Integration of the Power Commission and the Public Utilities Board.	164
Appendix A	Reservations of Committee Member W. J. Major	167

Tables	1. Capability and Output, Alberta Power Utilities 1968	7
	2. Distribution of Output by Type of Equipment Used	7
	3. Electric Billings Based on Domestic Rates	18
	4. Electric Billings Based on General Service Rates (Commercial)	19
	5. Electric Billings Based on Industrial Rates	20
Maps	1. Electric Service in Alberta	3
	2. Edmonton Metropolitan Area	128
	List of Exhibits	186
	List of Witnesses	191

Approved and Ordered,

(SIGNED) GRANT MacEWAN

LIEUTENANT GOVERNOR

Edmonton, Tuesday, November 14, 1967

The Executive Council has had under consideration the report of the Honourable the Minister of Industry & Development, dated November 7, 1967, stating that:

WHEREAS it is expedient and in the public interest that the supply of electric power throughout the Province is, as far as practicable, adequate and uninterrupted and is supplied as economically as possible, having regard to present and future power requirements of the Province and the supply and conservation of natural resources; and

WHEREAS at the direction of the Minister of Industry and Development a draft revision of the present The Power Commission Act has been prepared; and

WHEREAS the draft revision pertains to the regulation of the generation and distribution of electric power and is therefore a matter of interest and concern primarily to municipalities and electric utility companies; and

WHEREAS the Minister of Industry and Development announced during the Fifteenth Legislative Assembly that it was the intention of the Government to establish a Committee to consider a draft revision

of The Power Commission Act and to make recommendations thereon:

THEREFORE, upon the recommendation of the Honourable the Minister of Industry and Development, the Executive Council advises that the Lieutenant Governor in Council hereby orders as follows:

1. An ADVISORY COMMITTEE be and is hereby established for the purposes hereinafter set forth.
2. The Advisory Committee shall consist of three members as follows:

Gordon L. Burton	Claresholm	Chairman
William J. Major	Calgary	Member
Walter I. McFarland	Calgary	Member
3. The Advisory Committee shall meet from time to time at the call of the Chairman
 - (a) to consider a draft revision of the present The Power Commission Act,
 - (b) to hear and consider representations and objections with respect to that draft by or on behalf of cities and other municipal corporations, electric utility companies and any provincial government departments,
 - (c) to consider the questions posed relative to the supply of power in areas included in areas annexed to a city or another municipality, and
 - (d) to consider other pertinent legislation (existing or proposed) to determine if there are any contradictions between such legislation and the draft revision of The Power Commission Act, and to recommend such changes in the legislation or the draft revision as appear advisable,and shall report its findings and recommendations to the Minister of Industry and Development.
4. The Committee may require any person appearing before it to give his evidence under oath, orally or in writing, or in solemn affirmation if he is entitled to affirm in civil matters, and the Chairman or any member of the Committee may administer an oath or affirmation to a person intending to give evidence before it.
5. The Committee be and is hereby authorized to hire persons as additional help and may incur other expenses in connection with the work of the Committee, as may be required.

(SIGNED) A. O. AALBORG

ACTING CHAIRMAN

PREFACE

The generation of electric power in Canada by privately owned utilities has become the exception rather than the rule. In Alberta some three quarters of total output is generated by investor-owned companies. These electric utilities have made, and are making, a substantial contribution to provincial development, not only in the generation and distribution of power, but in the control of stream flow on the Bow and Saskatchewan rivers. A rather remarkable degree of co-operation among the various utilities, both municipal and privately-owned, has facilitated the development of an efficient power system in the province.

The rapid growth of this system, increasing urbanization and an inflationary escalation of costs has placed stress upon some parts of the present regulatory structure. Its updating with a view to developing an equitable and relatively simple set of rules is essential to the continued orderly growth of the power system.

The Advisory Committee has interpreted the Order-in-Council setting forth the terms and objectives of its appointment in a broad way. We have not restricted ourselves to a clause by clause examination of the proposed draft of The Power Commission Act but have tried, rather, to examine

the general structure of the power industry in Alberta, the regulatory framework within which it operates, and to suggest ways in which this framework might be rationalized and improved.

The premise upon which this approach is based is that the determination of objectives should assume priority over the selection of means by which these objectives might be achieved. The objectives of any legislation are necessarily implicit in the legislation itself and must first be determined. It is to the development of these objectives that the Committee has primarily directed its attention.

The genesis of the Advisory Committee stemmed from objections to the Draft Bill of a new Power Commission Act to replace the present one.^{1/} The urban municipalities objected, inter alia, to:

- (a) the degree of control over municipal electric utilities, including an apparent "freeze" on existing service areas and continuing rights of allocation of such areas within municipal boundaries, which authority the Draft Bill would give to the Power Commission, and
- (b) the conflict created by the apparent inconsistency between the right of the municipalities to supply consumers within their corporate boundaries under provisions of the Municipal Government Act and the continuing validity of permissive orders with no termination date which had been previously granted to private power companies to supply power in areas which have now been included within municipal corporate limits.

^{1/} The Power Commission Act RSA 1955 Ch. 239

The urgency of resolving this latter conflict is emphasized by the competitive entry of the City of Edmonton in supplying power to an area annexed to the city and which was already being served by Calgary Power. On the premise that competition between suppliers in any given geographical area is wasteful, one supplier must be excluded.

Another area of major concern to the Committee is that, for purposes of rate making, there are three sets of very different rules, depending upon whether or not the power company is a municipality, or a licensee under the Water Power Act. One private company is "a water power licensee", the other is not, and the municipal power utilities are free to establish their own rates.

In an effort to focus attention on the relevant issues, the Committee on March 1, 1968, sent a circular letter to all of the interested parties asking each to file a summary of the matters which they wished considered. From the replies received, the Committee compiled a summary of these issues and this summary was circulated to all of those concerned. This summary is as follows:

1. The application of regulatory legislation and procedures, the purposes, powers and duties of the respective regulatory bodies and the co-ordination of their functions.
2. Should uniform legislation apply to all utility owners with respect to all or any

(xii)

of the following:

- (a) A uniform system of accounts.
 - (b) Procedures and valuation re:
 - (i) acquisition and disposition of property,
 - (ii) expropriation.
 - (c) Determination of rate base, rates of return and resulting rates.
3. The manner of granting, varying, cancelling and/or terminating over a period of years the existing and future permissive orders.
4. The degree of control to be exercised by the Power Commission with respect to:
- (a) Setting up and allocating to a utility owner designated areas including all or portions of a municipality,
 - (b) Regulating the construction of new generating and transmission facilities and the exchange, buying and selling of power among the utility owners.
 - (c) Should (a) or (b) be varied when a municipality is supplying power within its corporate limits?
5. Should the Power Commission be limited to a regulatory function exercising administrative and quasi-judicial powers only? This may necessitate the establishment of a separate provincial corporation, if required, to be given the powers currently assigned to the Power Commission to generate and supply power or to take over existing utility systems.
6. Should there be a right of appeal from decisions of the Commission and, if so, are the grounds for such appeals adequate as presently set out in the draft legislation?
7. Should there be improved provisions for franchise renewals and if so, what?
8. The feasibility of permitting a municipality to levy a tax on power supplied by a private utility in an

area annexed to the municipality as compensation for loss of revenue which the municipality might have received through sale of power in that area.

The first hearing was held in Edmonton on April 26, 1968, at which time the interested parties were given an opportunity to amend or add to the summary of relevant issues which had been circulated. There was substantial agreement with this summary. The interested parties agreed to file their briefs with the Committee by August 15. This they did and copies of these submissions were provided to all of the interested parties prior to the renewal of hearings again in Edmonton on September 17. These hearings continued until October 4 and were then adjourned until January 14, 1969, in Calgary, to permit the interested parties to offer rebuttal evidence. The Committee heard a summation of evidence, again in Calgary, from April 1-3, at which time the hearings were concluded. The evidence is contained in some 1,945 pages of transcript; some 72 exhibits were filed.

SUMMARY OF RECOMMENDATIONS 1/

1. The municipalities should enjoy the exclusive right to generate, distribute and price power within their corporate limits. This right should be subject to existing negotiated agreements, and to existing franchises and permissive orders on the latter of which we have recommended the imposition of a definite life-term.
2. Regulation of municipal power utilities should be limited to:
 - (a) The use of a prescribed, uniform accounting system.
 - (b) The regulation of rates for power supplied beyond their corporate boundaries.
 - (c) Regulation by permit from the Power Commission for the construction of new generation facilities.
 - (d) Requirements for interconnection of "works" and interchange of power.
3. A life-term of one year should be placed upon the permissive orders within the "disputed" area presently annexed to the City of Edmonton.
4. The City of Edmonton should be permitted to apply to the Power Commission for the right to supply electric power in areas between the present corporate limits and the limits of the metropolitan area which it proposes to

1/ . Alternate and additional recommendations of Committee Member W. J. Major appear on p. 185

annex, excepting the defined industrial area. If these applications are approved a life term of three years should be established for the permissive orders presently effective in such approved areas.

5. A life-term of 20 years should be placed on the permissive order or orders applicable in the defined industrial area located in the southeast part of the metropolitan area of Edmonton. The boundaries of this area should be determined by the Power Commission after hearing representation by the interested parties.
6. Any municipality should have the right to apply to the Power Commission for an order establishing a municipal service area, and a life-term on existing permissive orders, in areas likely to be annexed to that municipality within a reasonable period of time.
7. When an area in which power is supplied by virtue of a permissive order, on which no termination date has been fixed, is annexed to an urban municipality, then a life term of three years should be placed upon such permissive order beginning as of the date of annexation.
8. The required notice for termination of a franchise should be increased from the present "rolling" six month to a "rolling" three year period.

9. The Public Utilities Board Act and the Water Resources Act and Regulations should be amended in such a way as to cause the rates for Calgary Power to be determined in the same manner as is now prescribed in the Public Utilities Board Act for other utilities.
10. Compensation upon partial take-over at expiration of a franchise should be based upon reproduction cost new less depreciation. No allowance for severance damages or "going concern" value should be included.
11. Severance damages should be paid upon partial take-over at the end of an arbitrarily determined life-term of a permissive order where that life-term is less than that of a franchise renewal period of ten years. Such severance damages should be based upon loss of actual load, not upon loss of an anticipated growth in that load.
12. The basis for determining compensation upon partial take-over should be the same for all utilities regardless of whether or not they are water power licensees.
13. The regulatory authority should be given jurisdiction over the interchange of power and regulation of the building of generation and transmission facilities in such a way as to achieve integration of the power system and the best possible use of existing facilities.

14. The owner of an interest in land required by a utility should have the benefit of:
- (a) Notice, prior to entry of the permittee for the purpose of making surveys or examining suitability of the site.
 - (b) Notice of intent by the permittee to expropriate.
 - (c) The right to present his objections, if any, at a public hearing.
 - (d) Demonstration, by the permittee, of public convenience and necessity as a necessary pre-requisite for expropriation.
 - (e) Receipt of payment of 75 per cent of the proposed compensation before, or upon, acquisition by the permittee, together with the detailed method of determination of such proposed compensation.
15. The Public Utilities Board and the Power Commission should be combined since there appear to be advantages to integrating the accounting and economic aspects of regulation on the one hand with the physical aspects on the other.
16. Those provisions in the present Power Commission Act, and also included in the Draft Bill, which empower the Commission to establish itself as an operating authority should be separated from those provisions providing for regulation. The former might be administered by a separate body to be established when, and if, the need arises; the latter by the combined Board.

Chapter 1

THE STRUCTURE OF THE ELECTRICAL INDUSTRY IN ALBERTA

Somewhat less than ten per cent of the power generated and sold in Canada is produced by privately owned companies.^{1/} Since investor-owned companies in Alberta account for three quarters of provincial output, our pattern of ownership differs markedly from the national average. Alberta, whose population is about 7.5 per cent that of Canada, generates less than five per cent of the Canadian electrical output although our rate of growth is higher than the national average.

(a) The Privately-owned Power Companies

Three private companies and three municipalities are generating and distributing power for sale in Alberta. The three private companies are Calgary Power Ltd., Canadian Utilities Ltd. and Northland Utilities Ltd. The latter two companies are under common ownership, and are integrated and operated as a single unit by one management.^{2/} Accordingly, we refer to this utility firm throughout this Report as "Canadian-Northland" and, individually, as "Canadian Utilities" and "Northland". For convenience we refer to Calgary Power Ltd. as "Calgary Power".

The three municipalities generating their own power

^{1/} Canada Year Book 1968 p. 679. The output of 6 billion KWH shown as generated by private utilities in Quebec in 1966 was almost all (95 per cent) used by private companies in their own manufacturing processes.

^{2/} Exhibit 7, p. 4

are the cities of Edmonton, Lethbridge and Medicine Hat. The cities of Calgary and Red Deer and some eight towns and villages^{1/} purchase power at wholesale from Calgary Power for distribution and resale; the rest of the urban municipalities have granted renewable franchises to one or other of the companies to supply power directly to their consumers. Canadian-Northland owns all of the distribution systems in the urban areas which it serves and, accordingly, does not sell any power at wholesale for distribution.

Canadian-Northland serves the Peace River area and the northern part of the province as well as two blocks across the east-central section. Calgary Power extends service to most of the southern and western parts of the province, as far north as Whitecourt and Athabasca, as well as a belt in East Central Alberta between the two blocks served by Canadian-Northland. Calgary Power also supplies directly several large industrial companies, including one within the City of Calgary, and a number in the County of Strathcona immediately to the southeast of the City of Edmonton. The areas served by each of the utilities is shown on the accompanying map.^{2/}

A brief sketch of the history of these five utilities may place their present position in better perspective. A forerunner of Calgary Power began retailing power in Calgary in 1889.

^{1/} These include the five towns of Ponoka, Fort Macleod, Cardston, Blairmore and Coleman and the three villages of Cowley, Frank and Lundbreck. With the exception of Ponoka, all of these are located in the southwestern corner of the Province.

^{2/} Supplied by Calgary Power.

MAP SHOWING ELECTRIC SERVICE IN ALBERTA

LEGEND

CALGARY POWER LTD.
CANADIAN UTILITIES LTD. & NLD.
MUNICIPAL SERVICE



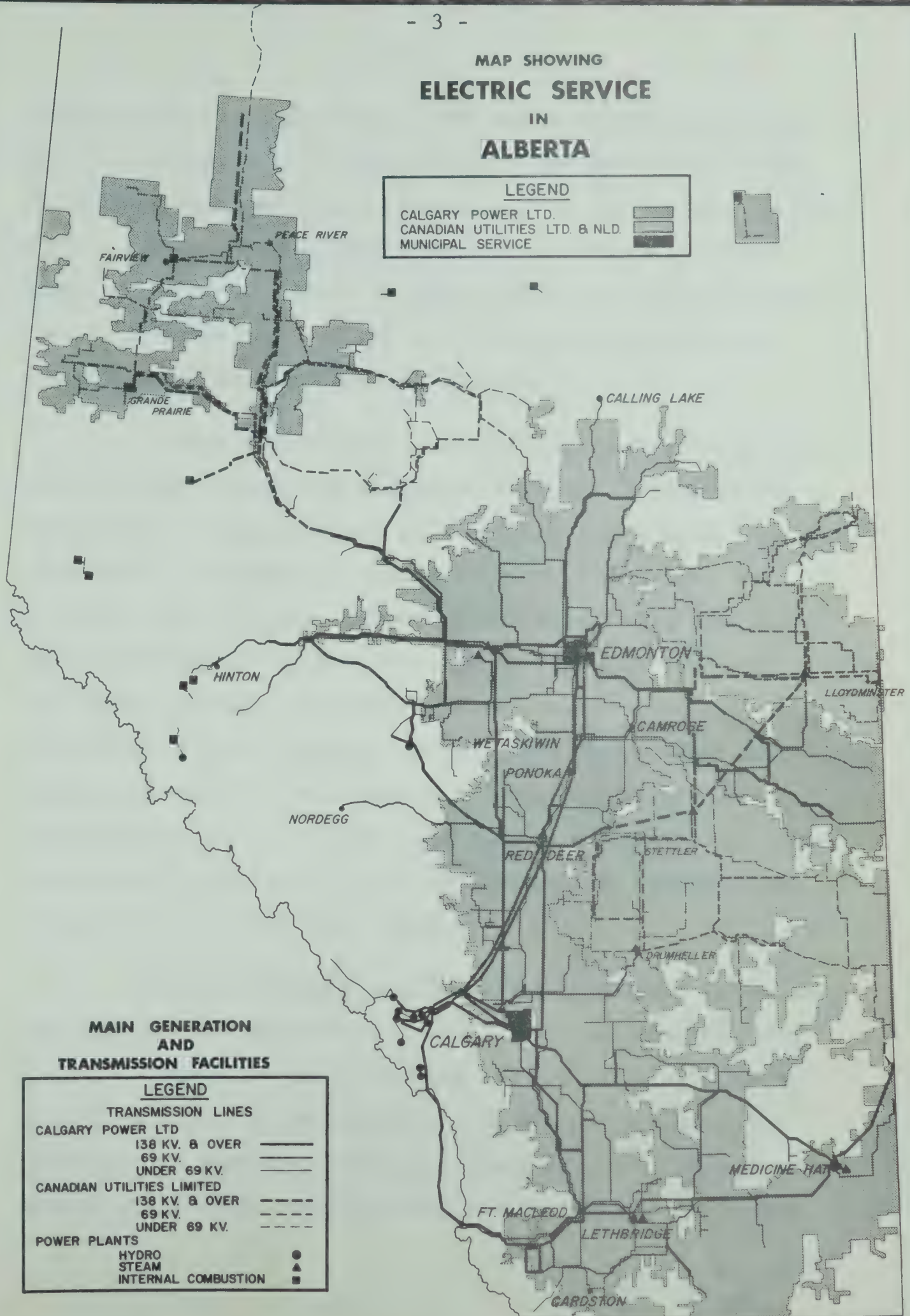
MAIN GENERATION AND TRANSMISSION FACILITIES

LEGEND

TRANSMISSION LINES

CALGARY POWER LTD.
138 KV. & OVER ———
69 KV. ———
UNDER 69 KV. ———
CANADIAN UTILITIES LIMITED
138 KV. & OVER - - - - -
69 KV. - - - - -
UNDER 69 KV. - - - - -

POWER PLANTS
HYDRO ●
STEAM ▲
INTERNAL COMBUSTION ■



Calgary Power was organized in 1909 and began delivering power from its Horseshoe Falls hydro plant on the Bow River in 1911. The company operates eleven hydro plants on the Bow and its tributaries and one on the Brazeau which is a part of the North Saskatchewan river system. A large part of the company's base load is furnished by coal and gas fueled thermal plants at Wabamun, about 50 miles west of Edmonton.

Canadian Utilities was organized, with federal incorporation, in 1927 to provide electrical services in Alberta and Saskatchewan. Expanding out of Drumheller, the company acquired and tied to a transmission system many small municipal and privately owned plants. Larger central plants were used to supply the system. In 1945 the company lost more than half its system when the government of Saskatchewan took over their properties in that province. At this same time another supplier, Dominion Electric Power Limited also lost its Saskatchewan properties to the government. Its Alberta properties were then reorganized as Northland Utilities Limited. It served Jasper and part of the Peace River country.

In 1961 Canadian and Northland came under one ownership and are now operated as a unit. They operate coal-fired plants at Drumheller and Forestburg and are building a large coal-fired plant at Grande Cache. Gas and oil are used for generation in plants at Vermilion, Sturgeon, Fort McMurray and several other locations in the oil fields of northern Alberta.

Canadian-Northland extends service to parts of the Yukon and Northwest Territories, as well as providing gas service to some 31 communities in Northern Alberta and British Columbia. Northland Utilities is growing very rapidly along with the petroleum industry in Northern Alberta.

(b) Municipal Electric Utilities

The municipalities have long enjoyed the legal right to generate, distribute and price power within their corporate limits with a minimum of control by provincial regulatory bodies. They have also the right, if they so elect, to grant a franchise to a supplier, either to supply the municipal corporation with power for distribution and resale or, to supply residents directly.^{1/}

The City of Edmonton has operated its own power utility since 1902 when it purchased a privately owned plant. During the 'fifties the generating plant was converted from coal to natural gas. A second plant is under construction, designed to include four 165 MW generators, the first of which will be commissioned in 1970. These additions will raise the City's generating capacity from its present net capability of 392 MW to more than 1,000 MW.

The City of Lethbridge has generated most of the power which it uses since 1910 when it purchased a privately

^{1/} Municipal Government Act, RSA 1968 Ch. 68, Sec. 273 with respect to generation; Sec. 277-b with respect to pricing; Sec. 269-1 and Sec. 270 with respect to franchises. Such franchises must be approved by the Public Utilities Board under Sec. 94 of the Public Utilities Board Act RSA 1960 Ch. 85.

owned system. Medicine Hat established its own generating plant in the same year and has operated it since. Both Lethbridge and Medicine Hat use gas as a source of energy to develop power; Medicine Hat owns its own gas utility.

The City of Calgary once generated its own power but contracted in 1910 to purchase power wholesale from Calgary Power. It retained its own distribution system and is presently the largest customer of Calgary Power, buying some 37 per cent of that company's net output.

Many of the smaller municipalities at one time owned and operated their own power plants and distribution facilities. These proved uneconomic, were acquired by the private utilities and integrated into interconnected systems.

(c) Capability, Output and Generating Equipment

Calgary Power accounts for 62 per cent of the power generated in the province; Canadian-Northland for 11 per cent; Edmonton for 22 per cent and Lethbridge and Medicine Hat for 2 and 3 per cent respectively. Table 1 provides a summary of the capability and output of the five utilities.^{1/}

The type of generating equipment used is largely determined by the source of energy. Alberta relies upon fossil fuels and water power; nuclear fuels are not, as yet, economical

^{1/} Alberta Power Commission Annual Report 1968, p. 15

owing to the modest size of the base load and the relative cheapness of competing fuels. Table 2 gives a breakdown of capability and output by fuel and type of equipment used.^{1/}

Table 1
Capability and Output, Alberta Power Utilities 1968

Utility	Net Capability ^a MW	Net Peak Load MW	Net Generation (million KWH)	% of Total
Calgary Power	1,249	956	4,393	62
Canadian-Northland	182	125	767	11
City of Edmonton	392	352	1,547	22
City of Lethbridge	31	31	151	2
City of Medicine Hat	<u>40</u>	40	<u>208</u>	<u>3</u>
Total	1,895		7,066	100

^a Net capability is generator capacity less power required within the plant to operate auxiliary equipment. In a hydro plant the auxiliary load is very small; in a steam plant it will be of the order of 5% of capacity.

Table 2
Distribution of Output by Type of Equipment Used

Method of Generation	Per Cent of Capability	Per Cent of Power Generated
Hydro	36.0	15.0
Steam and Gas Turbine	59.2	80.8
Internal Combustion	4.8	4.2

^{1/} Annual Report 1968, Alberta Power Commission, p. 17

The hydro generating plants have a much greater capability than output owing to variations in stream flow. Their capital cost, often including long transmission lines, is higher, but their operating expenses lower, than for thermal plants.^{1/} They also yield a product in addition to power, in that by using storage reservoirs, they tend to even out stream flow and thus assist in controlling pollution and flooding in the river systems on which they are built.

Hydro and thermal generation complement each other since hydro output, even with storage, declines during the winter months when the demand for power is greatest. Fuel plants now supply much of the base load with hydro plants being shifted to meet peak load demand within the limits of maintaining a minimum river flow. Gas turbines, using either gas or oil for fuel, are less efficient. However, their ease of starting, adaptability to remote control and simplicity offset this disadvantage when they are used: (a) to meet peak loads, (b) in remote areas, (c) where very cheap fuel is available, or, (d) where exhaust heat can be used. Canadian-Northland, the Cities of Edmonton and Lethbridge, as well as some industrial plants, are using them.

Natural gas, at present prices, offers many advantages as a fuel for thermal generation because of its ease of transmission and control. Edmonton Power's gas-fired Rosedale

^{1/} The capital cost of a gas fired thermal plant is of the order of \$80 per KW of capacity, a coal fired plant \$120, while a hydro plant may exceed \$200 per KW. Canadian Utilities have estimated the cost per net KW of their new 150 MW coal fired unit at Forestburg at \$177 per KW.

generating station produced, in 1968, one and a half times the combined output of Calgary Power's twelve hydro plants and, located in the center of the market which it serves, requires no incoming electric transmission lines but makes joint use of the gas transmission system. This manifest advantage of natural gas as a fuel may diminish in the future with buoyant domestic and export markets for this non-replaceable energy resource. An indication of the minimum magnitude of such future increases in the price of gas is provided by the price escalation provisions included in present gas export contracts. These are of the order of $\frac{1}{4}$ cent per Mcf per year which, on the basis of average prices ranging from 16-18 cents per Mcf, amount to a minimum annual increase of between 1.4 and 1.6 per cent.

Coal burning thermal plants face no such competitive threat to their supply of fuel. Indeed, increased coal exports serve to make available in quantity a low priced, by-product fuel. Canadian Utilities is building a 165 MW, coal-fired, thermal plant at Grande Cache designed to burn this by-product fuel.

Coal-fired thermal plants discharge more pollutants into the atmosphere than do gas-fired plants. However, they are usually located further from densely populated areas than gas-burning installations.

The government of this province has entered into co-operative arrangements with Calgary Power in the development of

hydro sites on the North Saskatchewan River. The objective is to promote simultaneous development of both river flow control and power in order to minimize the cost of each. This multi-use approach is reminiscent of the development of the Tennessee Valley in the United States during the 1930's by a public corporation. This co-operative approach by government and industry offers both opportunity and challenge. The opportunity lies in taking full advantage of the innovative capacity and efficiency of private enterprise; the challenge in securing harmonious integration of the private power systems with each other and with the power systems of the rapidly growing urban municipalities.

There are a few investor-owned industrial plants in the province which generate their own power; however, their sales to other customers are relatively small.

(d) The Power System

The five power utilities are integrated into an interconnected system. Such interconnections add greatly to the efficiency and reliability of the system. Since all parts of the system and all types of loads do not normally have their peaks at the same time, the peak load of an interconnected system is less than the sum of the peaks of its various parts. Consequently the load of an interconnected system can be carried by less generating capacity. The peak load in Alberta in 1968 was 1,457 MW; the generating capacity 1,895 MW. The load factor, which is the ratio of the average load to the peak load, was

about 50%. Were it possible to level out the load, the generating capacity required would have been only one half of the 1,457 MW actually used. This goal is not attainable because of the characteristics of the demand for power. Integration of the system, however, reduces the need for reserve generating capacity which is used only to meet peak loads, and serves to close the gap in the event of failure in some part of the system.

The operation of the power system as a system, rather than as a number of independent entities, permits a better use of scarce resources. The record in Alberta appears to have been rather good in this area; the investor-owned companies and the municipal utilities have taken power from, or contributed power to, the system under voluntary co-operative arrangements.^{1/} In spite of the friction caused by duplication of service areas in a part of the area annexed to the City of Edmonton, Calgary Power and the City of Edmonton have long had a formal and effective working agreement for the interchange of power.

The City of Medicine Hat and Calgary Power have entered into an agreement whereby the City installed a 30 megawatt unit in 1953 with the company purchasing such power as was surplus to the City's requirements. The City of Lethbridge has installed a tie with the Calgary Power system and entered into an agreement to purchase such power as it requires to supplement its own output.

^{1/} The most recent of these agreements, between Calgary Power Ltd., Canadian Utilities Limited and the City of Edmonton was signed on February 19, 1969.

(e) Rural Electrification

The electrification of farms in Alberta has been carried out through the formation of local co-operatives known as Co-operative Rural Electrification Associations. These R.E.A.'s have contracted with the three private power firms to construct and operate these lines. Capital for construction purposes is made available by the provincial government on long term loans at an interest rate of 3.5 per cent.^{1/}

The power companies have contracted to build and operate the lines and to supply energy at "cost". The quarterly billing account to the farm user includes a charge for energy, for depreciation and for operating. The depreciation charge is placed in a reserve and invested by the power company on behalf of the R.E.A. Any excess of the operating charge over the actual cost of maintenance is also added to this reserve.

Perhaps some 90 per cent of the farms in the province have been electrified and a number of rural non-farm residents are also served by R.E.A. lines. The participation is higher in the south than in the newer farming areas of the north. Any precise calculation of the percentage of farms served is impossible because of the difficulty of meaningfully defining a farm. With farm consolidation and the accompanying rural-urban movement of

^{1/} The province has advanced funds on an interest free basis to cover the cost of constructing lines in new areas where some farmers have not participated. As these farmers join, their capital payments will permit retirement of these loans. In the meantime, electric service has been made available to those who want it.

people, many farmsteads which are now unused have been served with electricity.

Farm use probably accounts for some 7.5 per cent of electric energy consumption in the province. The peak farm load however may rise as high as 13 per cent of the provincial peak load, which is a relatively low load factor.^{1/}

The energy rate varies between 2 and 2½ cents per KWH for the initial block of energy, depending upon geographical location, being higher in the north where miles of line per farm is greater and some higher cost energy is supplied by internal combustion engine. Energy used in excess of this basic minimum is sold at a lower price.

The Alberta Power Commission audits the accounts of the R. E. A.'s and the related accounts of the companies to ensure that the company services and energy are supplied at cost.^{2/} Some farmer members of the R. E. A.'s have, upon occasion, voiced criticism of the program; some of this criticism may stem from the burden of, in effect, paying capital cost of the present system through loan repayments and simultaneously accumulating a depreciation fund to offset the consumption of capital. Few would deny that electrification of farms has greatly increased the efficiency of agricultural production and has also

^{1/} Estimates by L. Collins, Engineer, Alberta Power Commission.

^{2/} Unpublished monograph, Alberta Power Commission, Jan. 2, 1963, p. 15

done much to bring the standard of living of rural residents closer to those of urban dwellers.

(f) Growth of the System

The Alberta power system has, since 1947, experienced rapid growth and this growth is likely to continue for at least the next decade. For the period 1951-65 the Alberta system grew by 410 per cent as compared with 133 per cent for Canada, 181 for Europe and 184 for the United States.^{1/}

Calgary Power reported that their annual compound rate of growth in energy output from 1962 - 1967 was 10.2 per cent. They predicted an annual growth rate of 10.7 per cent for the period from 1968-73;^{2/} the rate for 1969 exceeded 14 per cent. Canadian Utilities forecast an increase in peak load of about 13.5 per cent in 1970, and 15.5 per cent in 1971.^{3/} The City of Edmonton projects an increase in peak load of 12 per cent in 1970 and about 6 per cent annually through to 1981.^{4/} These higher estimates reflect the rapid economic development in the province.

The Alberta Power Commission foresees the plant capability increasing from 2,024 MW in 1970 to 3,197 MW in 1974 and to a possible 4,700 MW in 1979.^{5/} This capability

^{1/} Exhibit 7, Canadian Utilities Brief, Appendix II, p. 1

^{2/} Transcript p. 1062

^{3/} Calculated from Exhibit 7, figure 5

^{4/} Calculated from Exhibit 1, graph following p. G. 13

^{5/} Annual Report 1969, Alberta Power Commission, p. 32

is planned to provide capacity to supply the peak load with the largest unit out of service.

The utilities are already building to meet this anticipated expanded demand. Calgary Power is constructing a thermal plant, Sundance, adjacent to its Wabamun installation with a 286 MW unit planned for use in late 1970. The Bighorn hydro project, with a capacity of 108 MW, should be on stream in 1972. Edmonton is constructing a new station at Clover Bar with the first 159 MW unit to be operative in 1970; Canadian Utilities expanded its Battle River plant with a 150 MW generator which came on stream in 1969. It is also building new plants at Grande Cache and Fort McMurray and installing a 30 MW gas turbine at Rainbow Lake.

Accompanying this addition of larger and larger generating units is a progressive expansion in the mileage and capacity of the transmission system. Higher voltage lines are being built, the highest in the province now being 240 KV.

The rapid and sustained post war growth in the demand for power has enabled the utilities to enlarge the scale of their generating and transmission equipment.^{1/} This increase in scale of operations, together with technological improvements, has brought with it concomitant reductions in average

^{1/} The undepreciated capital assets of the utilities as of December 31, 1967, were of the order of \$535 million: Calgary Power \$304 million, Canadian-Northland \$102, Edmonton \$69, Calgary \$44, Lethbridge \$8, Medicine Hat \$5 and Red Deer \$1.6 million.

cost per unit of output. These lower average costs have offset the increasing price of inputs, enabling the power companies to maintain or, in some instances, reduce their rates. There is some indication, however, that returns to scale are diminishing and that, with continuing inflation and the necessity of raising ever larger amounts of capital at currently high interest rates, average costs may level out and begin to increase. Canadian Utilities Ltd. applied to the Public Utilities Board for, and received, a rate increase in 1969, the first rate hearing in its forty year history of operations and the first completed one for an electric utility in the province.

(g) Utility Rates

Any comparison of rates charged by the various utilities must be used with caution. Rates to a great extent reflect the cost of serving the consumer but many items enter into the cost to serve. Edmonton, which has as reasonable rates as any supplier, serves a very concentrated load. Canadian-Northland, though having access to low cost fuel, serves a widely scattered load and cannot be expected to offer the lowest rates. Calgary Power serves a concentrated load in Calgary and much of the more densely settled part of the province. They also have a system large enough to accommodate larger generating units than the other suppliers with resulting economies due to size.

Municipally owned utilities may absorb into their rates generous contributions to the general funds. This may be considered a return on equity but when it exceeds the rate

normally allowed utilities by rate setting authorities, it, in effect, becomes a hidden sales tax. The nature of its load and the present reasonable fuel costs appear to provide for these contributions and yet maintain reasonable rates. A major item of costs in the utility business is depreciation and the City of Calgary appears to be the only municipality appearing at the hearings which adheres closely to generally accepted accounting procedures with respect to depreciation. Although Edmonton submits that the reserves which they set aside are adequate and reasonable, the supporting evidence which they offered was incomplete.

Tables 3, 4 and 5 compare domestic, general service and industrial rates charged by the two private companies and the five cities who are generating and/or distributing power within their corporate limits. Calgary Power and Canadian-Northland submitted a number of rates; we have selected the lowest of these for purposes of comparison since they are in effect in the more densely settled areas and, hence, more comparable to the rates charged by the cities.

It will be noted that for most rate schedules, whether they be domestic, commercial or industrial, those of the City of Edmonton compare favourably with those of the private companies and the cities who are distributing power which they generate or purchase wholesale. A relatively cheap source of natural gas and a concentrated market surrounding their generating plant are at least two of the conditions which make it possible for the City of Edmonton to offer attractive rates and still earn a very favourable return on their investment in power facilities.

Table 3

Electric Billings Based on Domestic Rates

Utility	Rate Schedule	Minimum Bill							
		Amount	KWH Included	100 KWH	250 KWH	500 KWH	750 KWH	1000 KWH	
City of Edmonton ^{1/}	Domestic	\$1.50	25	\$3.00	\$4.50	\$7.00	\$9.50	\$12.00	
City of Calgary ^{1/}	CES10	1.77	-	2.56	4.70	7.45	10.20	12.95	
City of Red Deer ^{2/}		2.00	25	3.90	6.25	8.95	11.65	14.35	
Calgary Power ^{1/}	1-160 ^{5/}	2.00	20	2.80	4.80	7.30	9.80	12.30	
Canadian Utilities	101	2.40	40	3.90	7.30	11.80	15.85	19.60	
City of Medicine Hat 3/		1.00		2.85	5.10	8.85	12.60	16.35	
City of Lethbridge ^{4/}		2.00	50	3.60	5.47	8.60	11.72	14.85	

1/ Exhibit 1, Schedule D, Sheet 1 Revised to September 16, 1968.

2/ Exhibit 40 - Appendix 2

3/ Transcript P. 402

4/ Transcript P. 506

5/ Exhibit 34 - Rate 1-160 is for St. Albert and Sherwood Park only.

Table 4

Electric Billings Based on General Service Rates (Commercial)

<u>Utility</u>	<u>Rate Schedule</u>	<u>Billing Demands and Monthly Consumptions</u>								
		3 KW 375 KWH	: :	6 KW 750 KWH	: :	12 KW 1500 KWH	: :	30 KW 6,000 KWH	: :	40 KW 10,000 KWH
City of Edmonton	^{1/}	\$13.00		\$21.75		\$36.75		\$97.50		\$134.86
City of Calgary	^{1/} TR32	14.38		23.75		40.00		129.00		205.00
City of Red Deer	^{2/}									
Calgary Power	^{1/} 2-710 ^{5/}	-		24.16		39.16		101.25		153.25
Canadian Utilities	^{1/} 201	13.38		23.55		47.10		174.00		268.00
Medicine Hat	^{3/}	12.25		20.00		35.00		125.00		205.00
Lethbridge	^{4/}	14.31		24.00		40.25		130.25		210.25

^{1/} Exhibit 1, Schedule D, Sheet 2

^{2/} No figures given in exhibit.

^{3/} Transcript p. 405

^{4/} Transcript p. 507

^{5/} Exhibit 34. Rate 2-710 is for St. Albert and Sherwood Park.

Table 5

Electric Billings Based on Industrial Rates in Dollars

Utility	75 KW	150 KW	300 KW	500 KW	1000 KW
	KWH	KWH	KWH	KWH	KWH
City of Edmonton ^{1/}	\$191	\$380	\$1255	\$2408	\$3768
City of Calgary ^{1/}	255	445	1221	2608	3738
City of Red Deer ^{1/}					
(a) Comm.	244	489	1679	3258	5598
(b) Primary	-	405	1404	2700	4680
Calgary Power RS102 ^{1/}	300	600	1800	4000	6000
Canadian Utilities	Not available				
Medicine Hat ^{2/}	169	337	975	2000	2660
Lethbridge ^{3/}	265	465	1290	2390	3890

1/ Exhibit 1, Schedule D, Sheet 3

Transcript p. 406

3/ Transcript p. 507

Chapter 2

THE PURPOSE AND PRINCIPLES OF REGULATION

The regulatory system for a public utility must prescribe the method by which utility rates are to be determined. These rates are, of course, the price of the product. The relevant statutes of this province provide two methods by which the price of electric power is to be determined. A considerable amount of evidence and argument was placed before this Committee as to the relative merits of these two methods of determining rates. Since the provisions for fixing the return to utilities are an important part of the regulatory structure, we propose to examine and appraise these two different approaches.

(a) The Function of Prices

The economic systems of the countries west of the "Iron Curtain" use a price system to determine what goods and services shall be produced and in what quantities. With this type of economic organization, a firm places a product on the market only if, over a period of time, it can recover from the sale of that product a return sufficient to recover the cost of all of its inputs, including a return of capital (depreciation) and a return on capital (interest on investment).

The firm endeavours to price its product in such a way as to maximize its net return. If it is able to make a

return over and above costs (profit), it expands its output and/or new firms come in; if its returns fail to cover total costs, it will not replace its fixed capital. When it is unable to recover the whole of its variable costs it will cease operating since its losses by so doing will be lessened. In this way output is tailored to meet demand and suppliers are selected by virtue of their efficiency. Prices, in turn, ration inputs among enterprisers and consumers' goods among consumers. So runs the classical rationale of a pure-market economy.

In our "mixed" system of capitalism, government intervenes to provide subsidies to lower some prices, and levies taxes to raise others. It extends collective bargaining rights which enable certain groups to raise the price of their product or enforces sanctions to prevent other groups from raising theirs. Consumer income, and hence demand, is affected by income taxes and direct payments to consumers. Producers, through advertising, continue to try to mould consumer choice in favour of their own particular product. None the less, subject to these modifications, the price system enables consumers collectively to guide production.

Under this system the consumer chooses among the products which are offered on the market and is protected by the force of competition from paying more than the cost of producing any good or service -- at least over a period of time which is long enough to permit these competitive forces to work effectively.

There are many qualifications to this simple statement of the functioning of the price mechanism in a mixed economy. However, it is essentially valid and is most useful as a concept in interpreting the workings of a price economy.

(b) The Economic Role of Regulation

There are, however, some products for which this system of competition will not effectively establish a price and select the most efficient suppliers. The provision of electric power, natural gas, sewage and water service are good examples. The prime reason why competition will not work for these products is that their provision necessarily entails a more or less permanent, and relatively costly, physical connection between the premises of the consumer and those of the supplier. Under this circumstance, the consumer cannot switch from one supplier to another in order to secure a more favourable price or a better service. Consumer and supplier are, in effect, "married". The consumer wants the service at a price which is at least no greater than cost of supply; the producer must receive a minimum return equal to his cost if he is to "stay in business". One objective of regulation is "to simulate the norm of competitive pricing".^{1/}

The regulatory commission has been developed to establish rules of the game for public utilities. Two of the

^{1/} This apt phrase belongs to Professor Bonbright. See his "Principles of Public Utility Rates", Columbia University Press, 1961.

cardinal rules which it must establish are:

- (1) The allocation of exclusive supply areas to each supplier.
- (2) The determination of a product price which is not higher than is consistent with the continued supply of reliable, satisfactory service and which is not lower than is necessary to achieve that objective.

Exclusive supply areas are essential if utilities are to distribute their products at minimum cost. It makes no economic sense to have two sets of electric wires or two water mains on every street because one will do the job and the existence of two will not eliminate the necessity of establishing a price for power or water by a regulatory agency or by government. Society is prepared to accept more than one milk truck serving a street; it is not prepared to accept two power utilities, probably because of the greater cost of duplication in this second instance relatively to the cost of eliminating it.

Although a utility, by virtue of an exclusive franchise, may have a monopoly in supplying its particular product in its assigned area, this does not mean that the utility is not subject to competition. Natural gas is a substitute for electricity for space heating purposes and in some household appliances; if electric power rates become relatively too high, consumers can and will shift to gas and vice versa. The railways have proved very vulnerable to competing forms of passenger transportation. Although such competitive forces are very real, their existence does not essentially change the necessarily monopolistic nature of most utilities.

The Advisory Committee has no concern with the determination of electric utility rates as such; this responsibility rests with the Public Utilities Board. It is concerned with the statutory framework on the basis of which rates are established. For this reason, we propose to examine the methods used in setting prices for the products of public utilities and, specifically, electric power. In the submissions made to the Committee, there were very different opinions as to the desirable extent of regulation, particularly of municipally owned utilities, and also of the economic accounting methods by which a utility company's costs should be calculated for rate making purposes.

(c) The Function of Utility Rates

The rate set by a regulatory commission for the product or service provided by a utility is analogous to the price established by the market for the output of a firm operating in the open market sector of the economy. As such, this price must satisfy several requirements if the utility is to continue over time to supply a quality product.

The rate must be high enough to cover all of the legitimate costs incurred in the production of the commodity or service, including a return on investment sufficiently high as to enable the company to attract capital. This capital attraction feature is particularly relevant in this province since the demand for electric power is growing at a rate of

about ten per cent per year, and, because of the capital intensive nature of power production, very large amounts of capital must be invested if this demand is to be met.

The maintenance of the financial integrity of the utility is probably the most important single functional requirement of the general level of utility rates. This requirement must be met regardless of the methods used in judging the adequacy of utility rates.

The second function of the utility rate is that it be such as to encourage the achievement of a high degree of efficiency in the operation of the utility. Under conditions of open market competition, a firm must be able to recover its costs over a period of time if it is to survive. One means, then, of ensuring its own survival is for the firm to make every effort to keep its average per unit cost of production as low as possible. If a public utility is guaranteed a price for its product at least equal to its cost of production, has the regulatory agency thereby removed most of the incentive to the utility to operate as efficiently as possible?

The provision of an efficiency incentive poses a difficult problem for the regulatory agency. In establishing a rate it may use as a standard some sort of a norm, or target level, of efficiency. If the utility is able to achieve a higher level, it makes a higher return, and conversely. If,

too, in setting rates the commission takes no account of past efficiencies or past excesses in the rate structure, the utility is permitted to reap the gains or suffer the losses of its own economic performance.^{1/} Since rates, once established, normally are not again reviewed for a period of several years, and since there is usually a "regulatory lag" between the time when rates of return are reviewed and a new rate can be implemented, the electric utility does appear to be subject to considerable economic pressure to operate as efficiently as possible and to stimulate the demand for its product. Thus the theoretical "inefficiency" of rate regulation may in itself provide a powerful stimulus to efficiency on the part of the utility.

In addition to the two functions of utility rates which we have discussed, viz., the production motivation and the

^{2/} The regulatory structure for Calgary Power Ltd., as a water power licensee, is set forth in the Regulations to the Water Resources Act (RSA 1966 Ch. 362). Under these regulations (Sec. 33) the Public Utilities Board may not order a reduction in the rates charged by Calgary Power if such reduction would make it impossible for the company to earn "a cumulative fair rate of return" from the date at which it first began the sale of power. However, if the company were to apply for an increase in rates, a fair rate of return would be established by an appraisal based upon original cost, adjusted for physical and functional depreciation and for any variations in the purchasing power of the dollar (Sec. 59). Such an appraisal may be ordered by the Minister charged with the administration of the Act, currently the Minister of Agriculture. Calgary Power advised the Committee that such an appraisal has never been made. (transcript p. 326). In summary, then, if rates were to be reduced, consideration would be given to past excesses or deficiencies in return; if rates were to be increased, no such account would be taken. Under the Public Utilities Board Act, the utility generally reaps the gains and must suffer the losses of its own economic performance.

efficiency-incentive function, economists have distinguished two others.^{1/} These are the consumer rationing function and the income-distribution function. The consumer rationing function would suggest that if scarce resources are to be correctly allocated among competing uses, power should be sold at cost. This is a useful guideline based upon the concepts of optimum resource use in a price economy. It would suggest that the price of power should neither be below cost, which encourages excessive use,^{2/} nor contain a tax element which would unduly restrict consumption.

Since the City of Edmonton prices its power in such a way as to be able to allocate from its net earnings an amount in excess of \$5 million annually to general city revenues, it may be argued that power is overpriced as judged by this criterion.^{3/} As we have seen by a comparison of rates in Chapter 1, Edmonton's rates compare favourably with those of other distributors. It would be difficult, therefore, to argue that Edmonton has unduly restricted the use of power by its high rate structure.

^{1/} Bonbright, op. cit. Chap. III

^{2/} An interesting illustration of this is the example of the United States Government, after building a nuclear power plant for India, urging the Indians to price power at an "adequate" level in order to discourage waste. J. K. Galbraith, Ambassador's Journal, Houghton-Mifflin 1969, p. 555.

^{3/} City of Edmonton Brief, Schedule A-3.

The fourth criterion, the income-distributive function, is concerned with the flow of money from the recipient of the service to the producer. Many utility and social services are provided either at a loss or "free". e.g. city passenger transportation utilities are priced below cost while primary and education services are supported by the taxpayer with no direct charge to the parent of the pupil. This is not true of electric power for which the consumer pays directly to the utility a price sufficient to cover the supply cost.

The first two of these four criteria, i.e. production motivation and efficiency incentive, provide much more definite guides in establishing the level of rates than do the second pair, the consumer rationing and income-distribution functions. There may even be some conflict among the objectives themselves and, hence, the best rate level and structure must represent a compromise.

(d) The Rate Base and the Rate of Return

The objective of utility regulation is to establish a rate level which will result in the utility supplying service at cost. "Cost", defined as average total cost per unit of output, includes operating expenditures, depreciation on plant and equipment, and interest on capital investment, including working capital.

There is general agreement on this broad definition

of cost; differences of opinion, however, become apparent when it comes to defining one of the component parts -- the cost of supplying fixed capital. These latter costs break into two parts:

- (a) A return on capital, or an interest return on investment, and
- (b) A return of capital, or the allowance for depreciation.

The basic difficulty involved in measuring the cost of supplying fixed capital stems from changes over time in the unit of measurement itself - i.e. in the purchasing power of the dollar. It is apparent that a 1969 dollar is far different from a 1949 dollar; it is not so apparent as to precisely how different these two dollars are. To answer this question involves, of course, a comparison of the purchasing power of the two dollars -- but in terms of how much of what commodities and services? Moreover, the commodities and services themselves have changed over these twenty years. The generators which are being built today are not the same as those built in the late 'forties; they cost more but they also have greater capacity and are more efficient. Similarly, other components of the power plant have also changed.

One approach to this problem, which was advanced very persuasively by Calgary Power, is to "correct" or deflate the dollar by the use of an index number of construction costs in the electric power industry. This index is applied to "the surviving amount of property by vintage" to yield an original

cost corrected for change in the value of the dollar. If the index number series used for this purpose were perfect, this deflation would mean that we were valuing plant and equipment in each year with a unit of measurement which did not change. In this way, plant investment which had been made in various years could be converted into current dollars and added up without, in effect, trying to add "apples and oranges".

This is the method prescribed for valuing capital equipment by the Provincial Water Power Regulations under which Calgary Power is regulated.^{1/} These regulations provide for an appraisal of capital assets for purposes of determining water power rentals, compensation to the company upon expropriation, determination of depreciation and fixing rates to consumers. The value of fixed plant is to be the original cost of these assets, less an allowance for physical and functional depreciation, corrected for variation in the purchasing power of the dollar.^{2/}

The second private power company, Canadian-Northland,

^{1/} The Provincial Water Power Regulations are almost, but not quite, an exact replicate of the Dominion Water Power Regulations. Calgary Power is unique in that it is the only power company in Canada operating under these regulations.

^{2/} Water Power Regulations, Alberta (O.C. 1726/57) Sec. 59. A different rule is introduced if water power rentals are to be increased or rates reduced. Under this provision (Sec. 30 and 33) the company is guaranteed "a cumulative fair rate of return" on undepreciated original cost. Calgary Power agreed that this second provision should be eliminated and that only Sec. 59 should apply. See Transcript p. 1193.

is regulated on the basis of its original depreciated cost under provisions of the Public Utility Board Act.^{1/} In its submission to the Advisory Committee, Canadian-Northland submitted

"that they are entitled to have their returns of capital computed on the same basis as Calgary Power Ltd. not only on the basis of fair treatment but because they must compete for their required capital in the same money markets."

They also argued further that the common basis of regulation should be that established by the Water Resources Act.^{2/}

It is apparent that the methods used in determining the rate base and annual depreciation will be determinants of the rate of return (as a percentage of the rate base) although not necessarily of the actual return in dollars. We have stated earlier in this chapter that the return to the electric utilities must be sufficient to attract the resources needed to supply the demand for power priced at cost. The primary objective, therefore, is to determine this necessary return. Will the measurement of the rate base in current dollars facilitate this determination?

Notwithstanding the obvious advantages of converting the original cost value of capital plant of various vintages into current dollars in order to achieve comparability, we have some reservations concerning the validity of this method of

^{1/} Section 81-3.

^{2/} Canadian Utilities, Northland Utilities Limited, Submission to the Advisory Committee, p. 23.

determining a rate base.

(1) The degree of comparability achieved is no better than the index numbers used as deflators. We are not critical of the skills of the statisticians; theirs is an extraordinarily difficult task because of the complexities of a dynamic economy. The measurement of price change necessitates the weighting of the various commodities which are included in the sample, and these must be changed over time as the mix-pattern of their use changes. Secondly, the commodities themselves change over time with technological improvement. If a 1969 dollar differs markedly from a 1949 dollar, the same is true of electrical generators of comparable vintages.^{1/}

(2) There is a difference of opinion even as to the price index which should be used as a deflator. Calgary Power recommended the use of a price index of Electrical Utility Construction prepared by the Dominion Bureau of Statistics. Professor Bonbright, an American authority on public utility rates, argues for the use of an index of consumer prices in preference to either an index of construction costs or an index of wholesale prices, although he confesses to some doubts as to the

^{1/} See Melwood W. Van Scoyoc's appraisal of the D.B.S. publication "Price Indexes of Electrical Utility Construction", 1956-1965. Exhibit 60, pp. 13, 14. His argument is that this index fails to take account of the increasing productivity of labour over time.

desirability of making any inflation adjustments in the rate base.^{1/}

(3) It may be argued that the expression of invested capital in deflated dollars is intended to, and should, protect the investment of the common stockholder, since he will recover his investment more rapidly with larger depreciation allowances and, more fully, upon expropriation. However, the expression of total capital investment in deflated dollars does more than this since, typically, more than one half of the assets of a utility are supplied by bond holders and the owners of preferred shares.

The two latter groups receive no guarantee that the value of their securities will not be eroded by inflation and its accompanying higher rates of interest. If equity investors are to receive preferred treatment, it would seem more reasonable to deflate only that portion of the firm's total fixed assets which is represented by common shares. A broader question arises as to why equity holders in utilities should be protected against inflation to the exclusion of bond holders and the owners of preferred stock as well as investors in stocks and

^{1/} Bonbright, op. cit., p. 275. Much the same position was taken by Mr. Van Scoyoc in a submission to the Advisory Committee (op. cit. p. 12) - "Thus, if the objective of the use of value in the rate making process is to protect the utility equity investors from the loss in the purchasing power of the dollar which has taken place, it is evident that the use of construction cost indexes for such purpose would result in a very substantial overstatement of such erosion."

bonds of firms operating in the competitive sector of the economy.

(4) If the rate base is to be inflated to reflect the declining purchasing power of the dollar, the rate of return will be correspondingly reduced if the total return to the utility is held constant. If Calgary Power's rate of return for 1967 is 7.45 per cent^{1/} and the plant value is understated by 36 per cent^{2/} then the rate of return on deflated dollars would be only 4.8 per cent.^{3/} In an economic environment in which the rate of return is commonly calculated on original depreciated cost, such a rate of return would seem very modest indeed.

The Advisory Committee is mindful of the need of electric utilities to raise large amounts of capital on the market to provide for expansion of their facilities. We favour an empirical approach in determining the necessary return to the utility companies to enable them to attract capital. The

^{1/} Exhibit 56, Calgary Power Ltd., Rate of Return Calculation. This rate of return is calculated on original cost less depreciation on total plant investment. The rate of return on the common shareholders' equity was about 12.4 per cent. (Transcript p. 1313).

^{2/} Exhibit 6, Submission of Calgary Power to the Advisory Committee p. 28 and Transcript p. 1307. The original cost, undepreciated, of Calgary Power's plant is 36 per cent less than the original cost, undepreciated, adjusted for variation in the purchasing power of the dollar.

^{3/} No account is taken here of the difference in depreciation allowances between plant account adjusted for variation in the value of the dollar and plant account unadjusted. A note on depreciation allowances in the company's Annual Report suggests that to date the two methods yield approximately the same accrued depreciation reserve. See Exhibit 65, p. 13.

rate base should be determined on the basis of prudent original cost on which depreciation allowances are calculated. Bond interest and dividends on preferred shares can be calculated and allowed; an adequate return on common stock, including an allowance for inflation, can be determined by reference to the market at rates sufficient to attract the necessary capital. The sum of these dollars yields the necessary return of, and return to, capital.

The above approach has been labelled one of "financial requirements". It has the advantage of simplicity and a direct approach toward the objective, viz., providing the utility with a rate structure which will enable it to supply reliable service at prices sufficient to cover costs and attract capital for expansion. This approach is consistent with the present provisions of the Public Utilities Board Act, with the decisions of the Board in the two rate hearings for natural gas companies in 1959 and with the application by Canadian Utilities for an increase in its electric rates in 1969.^{1/} The decision with respect to Canadian Western Natural Gas Co., Limited of March 4, 1959, states:

"The duty of the Board is to fix just and reasonable rates. To do this it is necessary to determine how many dollars the company requires. The type of rate base used is immaterial. If a trended cost rate base or a reproduction cost rate base is used then the rate of return will be correspondingly lower than if an original cost rate base were used."

^{1/} P.U.B. Orders 23616, 23965, and 29547. Sec. 81 of the Public Utilities Board Act provides that in determining a rate base the Board shall give due consideration to "the cost of the property when first devoted to the public use, to prudent acquisition cost to the owner, less depreciation, amortization or depletion . . ."

The Advisory Committee is of the opinion that it is preferable to rely upon the judgment of the regulatory commission in establishing rates rather than to attempt to establish a rigid statutory formula such as that embodied in the Regulations to the Water Resources Act. A rate hearing under the latter has never been held. When one was attempted in 1961, upon an application by the City of Red Deer and the Town of Jasper Place regarding the rates charged by Calgary Power, it "high centred" on the interpretation of the Water Power Regulations. Whatever the merits of these regulations may be, administrative simplicity is not among them.

Calgary Power takes the position that the purpose of a trended cost rate base is not to increase the fair return which it is allowed so long as that return is fair. In other words, if the undepreciated original cost rate base of the company were understated by 36 per cent because of inflation, then the present rate of return (7.45%) would be reduced proportionately (4.77%) if a trended cost rate base were used.^{1/} Notwithstanding this concession the company strongly endorses the trended cost approach of the Water Power Regulations. If one objective is to remove the element of human judgment in rate making, it does not seem to this Committee that the Regulations accomplish this end. Judgment is still implicit in the price indices as well as in the determination by the Utilities Board of a "reasonable" rate of return on a trended cost

^{1/} Transcript pp. 1001-1003.

rate base.^{1/}

The important consideration is that the total return to the utility be adequate to preserve its economic viability, and yet not price power any higher than is consistent with the supply of such power on a reliable basis and in the amounts demanded by consumers. The administrative simplicity of the accounting procedure necessary to determine an adequate total return to the utility is an important characteristic of an effective regulatory structure. Such simplicity saves time and money.

(e) Depreciation

The price of utility services is set at cost by the regulatory authority. Cost is determined by an accounting procedure. Depreciation enters into the determination of cost in two ways. First, a part of the operating cost in any given year is the value of plant and equipment which has been consumed in producing the utility service of that year. Second, if the return to the utility is determined as a percentage return on the rate base, i.e. a rate of return, then the rate base at the end of any year is less than at the beginning of the year, apart

^{1/} Calgary Power explicitly stated that its support of trended cost was because it considered such a rate base provided a superior method of calculating depreciation. Transcript p. 1683. The City of Edmonton objected to the use of a trended cost rate base on the grounds that the low rate of return which the use of such a rate base would permit would not appeal to the investment community and would have to be raised. This increase in turn would lead to a level of rates to consumers which would be higher than necessary. Transcript p. 1835.

from new additions to plant and equipment, by the year's depreciation allowance.^{1/}

Assuming that the service life of the fixed plant and its end-life salvage value can be accurately foreseen, the consumers of utility services in any one year should pay the difference between the original cost and the salvage value divided by the service life. In this way the utility recovers from consumers the original cost of its plant and equipment during the service life of that plant and equipment.^{2/} Depreciation, then, is both an operating charge and a rate base deduction. Since it is not possible accurately to anticipate the service life of fixed equipment, the annual charge for depreciation, and the accumulated depreciation reserve, may not be exactly equal to the real loss in value of plant and equipment. Older electrical generators, for example, may be kept for years and occasionally used on a stand-by basis even though their original cost has been fully amortized by depreciation charges.

^{1/} If the regulatory authority permits a revision of utility rates on the basis of the utilities' financial requirements, then the rate of return on investment may be used as a check on the reasonableness of the financial requirement. Under either approach, and in practice it is likely to be a combination of the two, the calculation of the rate base is essential.

^{2/} This is the so-called straight line method of charging depreciation which is commonly used. Other methods are also employed such as the sinking fund whereby an amount of annual depreciation is mathematically determined which, when accumulated at a given rate of compound interest over the service life, will be equal to the net cost of the fixed asset. Different methods of charging depreciation allocate the charge in a different fashion over time; the straight line method provides for equal annual write-offs, the sinking fund for gradually increasing annual charges, the diminishing balance method for large write-offs in the earlier years.

Depreciation accounting provides a means of allocating capital costs over time in proximate accordance with the rate of consumption of the fixed assets. The approximation must be adjusted with plant mortality experience; it should not be assumed that consumers are paying in any given year for the exact amount of plant and equipment which they are using up.

The method used in determining depreciation as well as the method of determining the value of the plant and equipment being depreciated is of prime importance to both the utility and the consumer. Since electric utilities employ large amounts of fixed capital the allowance for depreciation constitutes a significant part of total operating expenditures. For the year 1967 the ratio of depreciation allowance to total operating expenses, including taxes, was 21 per cent for the City of Edmonton, 23 per cent for Canadian-Northland and 26 per cent for Calgary Power.^{1/}

In its initial submission to the Advisory Committee, and throughout the hearings, Calgary Power ably defended the trended cost approach to the determination of its rate base as established by the Regulations to the Water Resources Act. The company is of the opinion that this method of regulation is superior to the original cost approach employed by the Public

^{1/} Submission, City of Edmonton, Schedule A-1 and annual reports of Canadian Utilities and Calgary Power. The ratio for Edmonton may be not strictly comparable since Edmonton includes some debt amortization payments in lieu of depreciation charges.

Utilities Board for two reasons:

- (1) Depreciation based upon a trended cost rate base more fairly allocates to each generation of consumers the capital consumption cost of producing the power which they use.
- (2) Calgary Power's water power licenses expire in the year 2000 and, unless renewed, the Government of Alberta will at that time purchase the entire system. "There are options (available to) the Government at points before that to take over with bonus payments. Apart from the total take-over, however, there is a continuing process of take-over on a piecemeal basis by franchise termination and by annexation." ^{1/} The use of "trended cost" would inflate the original cost of plant and equipment by allowing for the diminished purchasing power of the dollar.

These arguments are fundamental to the philosophy and method of utility regulation. They are particularly relevant in this province where we have the major private power supplier, Calgary Power, regulated under the Water Resources Act which embodies the trended cost approach, and another large firm, Canadian_Northland, regulated by the Public Utilities Board using an original cost rate base.

Let us examine first the issue of whether the rate base, on the plant and equipment component of which depreciation is calculated, should be inflated to compensate for the shrinking value of the dollar in an economy subject to chronic inflation, or whether it should be the "original cost" dollars of the year in which the fixed investment was made. Any appeal to the "experts", or to the literature, does not yield a conclusive

^{1/} Transcript p. 1685

answer to this vexing question. As we see in our survey of regulatory practice in other jurisdictions, the Canadian approach has been largely one of reliance upon original cost.

Some 90 per cent of Canadian electrical power, however, is produced by the provincial governments, or, in Ontario, by that mild variant therefrom, the Ontario Hydro-Electric Commission. Once the state assumes ownership and the Crown operating authority sets its own rates, the question as to whether or not the rate base is being expressed in original or present dollars becomes largely academic. Such criteria as the financial requirements of the utility and the "reasonableness" of the rates, appear to supersede the rate of return on investment and the method of determining depreciation.

Two expert witnesses who appeared before the Committee were unable to agree as to whether or not there existed a trend in the United States toward the use of "fair value" criteria in establishing a rate base.^{1/} It is apparent, however, that a United States Supreme Court decision in 1944 (Hope Natural Gas) permitted the use of an original cost rate base which had been

^{1/} It is often difficult to determine whether any particular jurisdiction is "fair value", "original cost" or some combination of the two. Into which classification would the Province of Alberta fall? Calgary Power, generating 65 per cent of the provincial power output, and which has never had a formal rate base established, is regulated under the Water Resources Act which prescribes a current cost rate base. Canadian-Northland generating 10 per cent, and governed by the Public Utilities Board Act, is original cost. The municipalities, generating 25 per cent, establish their own rates, with or without reference to a rate base.

denied by an earlier decision in 1898 (Smyth vs. Ames). It would seem that some 13 to 17, out of 56 jurisdictions in the United States and its offshore possessions, use "fair value" in determining their rate base. The rest use original cost. "Fair value" permits at least some consideration being given to price change in establishing a rate base. The Federal Power Commission, which regulates electric and gas utilities operating across state lines, uses an original cost, depreciated rate base.

The thrust of the argument with respect to determining the amount of depreciation on plant and equipment centers on whether the objective is to accumulate a depreciation reserve which, at the end of the service life of that plant and equipment, will be sufficient merely to reimburse the firm for its original capital outlay, or will serve to replace the plant and equipment at current higher replacement costs. If the objective is to permit the utility to recoup its original investment in plant and equipment, depreciation should be taken on original cost; if the objective is to build up a depreciation reserve which will be adequate to cover replacement cost, depreciation should be calculated on the inflated value of the plant and equipment.

The difference between depreciation allowances calculated on these two bases will differ depending upon the rate of inflation and the length of the service life of the plant and equipment. Technological developments and increasing returns to scale in a growing system may so reduce the ratio of dollar inputs to dollar outputs as to "obscure and postpone"

the effects of inflation upon unit costs for long periods of time. This is exactly what has happened in Alberta during the twenty-five years following World War II. There have been successive reductions in rates made voluntarily by the private power companies, under the surveillance of the Public Utility Board, and only in mid-1969 was the first rate hearing held by the P.U.B. and a rate increase granted to Canadian-Northland.

The Committee is of the opinion that the function of depreciation is properly to enable the utility to recoup its original investment during the service life of the plant and equipment. Additions to plant and equipment are being continually made and depreciation allowances are being continually reinvested in these additions. Since there is, however, a lag between the time of investment and the time of recovery of depreciation, a rising price level may well cause depreciation reserves to fall short of the funds required for replacement, regardless of whether or not the utility is growing. If this be so, additional investment either from retained earnings or from outside sources will be required to replace capital plant and equipment. If the utility is growing, which is characteristic of electric utilities in this province, further additional investment for expansion of plant and equipment will also be necessary.

Calgary Power, like all commercial and industrial enterprises, exhibits a dislike of bearing risk of loss. They

argue that the history of many utilities, e.g. street railways and canals, is replete with examples of capital losses due to obsolescence. If such losses in capital value could have been reflected in annual depreciation charges and passed on to consumers in the form of higher rates, they would not have accrued to the holders of equity capital.

Perhaps of greater concern, now, is the prospect of continuing inflation. The company argues that annual depreciation charges should reflect the erosion of the purchasing power of the dollar in order that each generation of consumers pays the current cost of the utility services which they are receiving. Consumers are getting the benefit of services derived from capital investment priced at less than current reproduction cost. The holders of debt capital and preferred shares, too, may suffer from price erosion and yet receive no compensatory write-up in the value of their investment and they, typically, supply about two thirds or more of the capital employed by most utilities. The development and application of techniques designed to protect all investors from inflation would be most difficult. The Advisory Committee is reluctant to recommend present value accounting, with all its complexities, as a means of protecting one group in the utility industry, the holders of common shares. This group receives some protection from re-investment of depreciation allowances and surplus earnings as well as by the rate of return.

The proper function of the depreciation allowance, we suggest, is to recover the original capital investment, not to accrue the cost of reproducing a new plant when the old one is worn out. The allowance of a return by the regulating authority, based upon the financial requirements of the utility, should enable the utility to finance additional and/or higher priced capital replacements. As we have indicated in our earlier discussion of trended costs, we believe that continued adherence to an original cost rate base has many advantages of both an economic and administrative nature and that its use is consistent with the making of adequate allowances for depreciation.

(f) Compensation Upon Take-over of Entire System

The Regulations to the Water Resources Act provide for the valuation of the company's property in the event the Province fails to renew the company's water power license at such time as it expires. Should this occur, the Province is required to take over the whole, not a part, of the company's property. The general provision is that the compensation for the property shall be original cost, corrected for any variation in the purchasing power of the dollar, and less depreciation arising from either physical or functional causes.^{1/}

^{1/} Alberta Regulation 284/57 Sec. 27. A premium, not to exceed 10 per cent, is to be added to the value of land and capital equipment outside the "severance limit" in lieu of "going concern and other intangible elements". No such premium is payable on property within the severance limit. The severance limit is so defined as to distinguish those hydro properties which are physically essential to the storage of water and generation of power as distinguished from transmission and distribution facilities.

The Brazeau River Development Act of 1960, which provided for the co-operative development of a dam on the Brazeau River by Calgary Power and the Province, bound the Province not to exercise its rights of recapture prior to 1980 and, should it take over the company between then and the year 2000, to pay a premium not to exceed 15 per cent.^{1/}

Calgary Power is aware of the trend toward public ownership of power utilities in other provinces:

"The private utility operating in Alberta would be blind if it did not see that the whole tendency of utility operation in Canada has been toward public ownership. To the west of us and to the east of us very large utilities have been taken over by governments replete with court battles as to evaluation to the point where there are very few private utilities left in existence in Canada." ^{2/}

The economic and political environment in which the company operates must of necessity influence its view on what kind of regulatory structure it prefers. It would like to recover the current value of plant and capital consumed each year rather than the original cost since its corporate life may not extend past the end of this century. On the other hand, the Regulations to the Water Resources Act specify that, in the event of take-over, the company is to be compensated upon the basis of then current dollars (i.e. original cost inflated to offset the declining purchasing power of the dollar) for its fixed equipment less accumulated depreciation. The Committee

^{1/} Brazeau River Development Act 1960 Ch. 10

^{2/} Transcript p. 1685.

believes that this provision for compensation adequately protects the company in the event of a take-over and that depreciation should, for rate making purposes and in fairness to consumers, be calculated upon the basis of original cost.

Since the other privately owned electric utility is not regulated under the Water Resources Act, it enjoys no such degree of statutory protection as to determination of compensation at take-over such as is provided by the Regulations for the water power licensee. Neither does it have a statutory limitation upon the life term of its license. However, the formula for determining compensation which has been used by the Public Utilities Board appears consistent with the provisions of the Water Resources Act. The Board has computed compensation on the basis of "reproduction cost new less depreciation" on the property being expropriated or taken-over.

(g) Compensation Upon Partial Take-over at Expiration of a Franchise

So far we have been discussing the determination of compensation for the take-over of an entire company. A much more immediate question is as to the compensation which should be paid for a part of a power system upon the expiration of a franchise. A municipality may, with the approval of the Public Utilities Board, grant a franchise for a period not in excess of 20 years and renewable for periods not exceeding 10 years.^{1/}

^{1/} Municipal Government Act, S.A. 1968 Ch. 68, Secs. 269-271.

If either party refuses to renew, the municipality may purchase the equipment of the utility at an agreed upon price or, failing agreement, at a price and on such terms as may be determined by the Public Utilities Board.

Calgary Power has taken the position that upon take-over at the expiration of a franchise, the utility should receive severance damages - i.e. that it should be fully compensated for the difference in value of the system before and after the take over. The failure to do so, the company argues, imposes hardship upon other customers of the system or upon customers at other time periods.^{1/} Calgary Power argued that, if such severance damages are not included as compensation, they must be recovered from consumers during the life of the franchise and that this is difficult since it cannot be known in advance whether or not the franchise will be renewed.^{2/}

Surely if a utility enters into a contract for the supply of power for a fixed term and is guaranteed the recovery of its costs during this period and the fair value of its equipment at the termination of the contract, it has no further claim upon the consumers within the franchise area. The Public Utilities Board adopted this position with respect to the termination of a gas franchise and its decision, upon appeal, was confirmed by the Appellate Division of the Supreme Court of Alberta.^{3/}

^{1/} Submission of Calgary Power to Advisory Committee, pp. 59, 60.

^{2/} Transcript p. 846.

^{3/} Northland Utilities Limited vs. Grande Prairie (1966) 56 WWR 613.

The Board's decision in this case was that the price to be paid for the property if acquired by the City was to be the reproduction cost new less depreciation.^{1/} The City contended that it should be required to pay only original cost less depreciation. The company contended that the purchase price should contain an allowance for severance damages and diminution of future earnings resulting from the loss of the franchise. The Board ruled that the company had entered into an agreement with the city to sell its gas distribution system "at a price to be ascertained" in the event that the franchise was not renewed and that, therefore, the transaction would "not involve the elements of a compulsory taking".

In dissenting from the majority judgment of the Appeal Court, Mr. Justice Porter argued for the use of original cost less depreciation as the basis for compensation. He pointed out that Northland Utilities' rates for gas in Grande Prairie had been based upon a rate base of original cost; the city would now have a higher rate base determined upon the basis of reproduction cost and, hence, to receive the same rate of return as the company, would have to charge higher rates. The City of Grande Prairie did not purchase the distribution system.

The Advisory Committee considers this precedent to be an important one. The fixing of compensation upon the basis of reproduction cost new contains at least two significant economic

^{1/} P.U.B. Order No. 28075, Feb. 24, 1967.

implications inherent in its definition as set forth by the Utilities Board:

"Under this concept the assumption is taken that the present existing installation is instantaneously wiped out and at the date of the valuation a contractor is ready and able to rebuild a system identical in size, quality and performance to the one wiped out." 1/

These implications are:

- (a) The private utility, in a period of rising prices, is compensated for the depreciation in the value of the dollar in terms of which its plant and equipment is valued.
- (b) The private utility may not be forced to accept losses arising from functional depreciation. The definition quoted above specifies "the cost of reproducing a system identical in size, quality and performance." Given technological progress during the term of the franchise, it is unlikely that it would ever be economic to reproduce the old plant.

The allowance for functional depreciation, or obsolescence, is admittedly difficult in practice and there appears to be some confusion in the interpretation of the concept itself. In the Board's Order in the Grande Prairie case we find this indefiniteness:

"Counsel for the City in his argument contends that the concept of reconstruction cost new is based upon the building of a system which will do the job. He suggests that this means that in undertaking such reconstruction the contractor would not laboriously go out and slavishly reproduce a system which has obsolete aspects in it.

"This argument had particular reference to pipe and the type of meters used. It has transpired that because of more advanced methods of pipe manufacturing thinner wall pipe may now be used than was the

1/ P.U.B. Order No. 27014, June 15, 1965, p. 12.

case when the system was first built. In addition, changes in regulations have allowed the installation of less costly meters.

"While these facts are no doubt true, nevertheless both the contract between the City and Northland and the provisions of the City Act refer not to alternate apparatus but to the apparatus that is there

"This language seems to the Board to be abundantly clear. It refers to the apparatus installed and not to substitute apparatus. The price, therefore, must be on the basis of the existing facilities subject, in making the valuation, to giving effect to the factor of obsolescence which has to be taken into account."1/

We are not critical of the Board's decision in this particular case. As it has pointed out the Board considered itself bound by both a contract and by legislation. It may, however, have been forced into an inconsistent position by these constraints.

To say that reproduction cost must be that of "the apparatus installed and not to substitute apparatus" but taking into account "the factor of obsolescence" seems contradictory. Obsolescence in older plant and equipment arises as the result of the development and use of substitutes which give a higher ratio of value output to cost input. To calculate the cost of building a system "identical in size, quality and performance to the one wiped out" as a basis for compensation places the burden of inflation as well as the cost of obsolescence upon the purchaser.

This apparent inconsistency in the Board's decision may be more apparent than real. The significant issue is as to

1/ Ibid. p. 12

whether the local consumer or the utility owner, and hence indirectly all consumers in the remaining system, is to bear the cost of obsolescence. If the local consumer is to bear this cost, either annual depreciation charges should include an allowance for obsolescence or, alternatively, compensation upon partial take-over should be based upon the reproduction cost of the original plant and equipment.

We believe the Board, by its decision, is transferring the cost of past obsolescence, to the extent that it has not already been covered by depreciation charges, to the new owner and hence this cost will be borne by substantially the same consumers. With this approach we are in agreement.

The investor-owned utilities do not favour the "re-production cost new less depreciation" method of determining compensation upon the termination of a franchise. Calgary Power states their position as follows:

"Finally, Section 59(1) provides for the use of a valuation for any other purpose that may occur. The major area that falls into this category is the determination of compensation on the termination of a municipal franchise. It is difficult to see that the compensation in such a case should be based on principles different from those relating to compensation to be paid at the termination of the license, except that separate consideration is required for severance damages in that only a part of the system is being acquired. The compensation, should be the difference between the value of the total undertaking before and after severance, with due allowance made for going-concern and other intangible values." 1/

The elimination of severance damages from the formula

1/ Calgary Power Submission p. 28

provided in the Water Power Regulations would make this latter formula substantially the same as that employed by the Public Utilities Board. Indeed the latter might be somewhat more favorable, depending upon the Board's interpretation of obsolescence as compared with the interpretation of functional depreciation under the Water Power Regulations.

If the elimination of duplicative and competing utility systems is to be achieved in annexed areas by assigning a life-term to the present open-ended permissive orders, a new rate base equal to acquisition cost would probably be well in excess of a depreciated original cost rate base as Mr. Justice Porter has pointed out.

The Advisory Committee considers that the reproduction cost method being employed by the Public Utilities Board is a reasonable one. Canadian-Northland does not agree, although they signed a contract providing for take over at the end of a period. They state:

"In the one case that has been before the Board, as has been pointed out to you, the Board determined that the municipality should pay the present value of the nuts and bolts but refused to give any value to the thing as a going concern, and we feel that that is unfair, there is something more to what the municipality is getting than just the wires and poles or pipes, it has got a going system with customers hooked on to it which has cost the utility money to get, to get those consumers, and some recognition of that should be given if a purchase is made, and additionally, the Board should, in our submission, take into account the effect, if any, on the balance of the utility system, if that as a result of losing a substantial part of its load that has an effect on the remaining consumers that is something that should be given some consideration in the price." 1/

If the investor-owned utilities have adequate notice of franchise termination, are compensated for plant and equipment on the basis of reproduction cost new, which method of valuation protects them from depreciation of the dollar in a time of inflation, we think they will be fairly treated. If the utility is also to be compensated for any diminution in future earnings attributable to the loss of plant and equipment in a particular area, the purchaser will, in our opinion, be unjustly penalized. If an allowance for severance damages also includes compensation for loss of earnings resulting from future growth in the area, as advocated by the private utilities, the take-over price would become prohibitive. Such severance damages might be warranted if open-ended permissive orders are considered to be of a perpetual nature. We do not think this was the intent when these orders were originally granted.

(h) Franchises and Allocation of Supply Areas

The Municipal Government Act empowers a municipal council to enter into a contract with a utility to supply electric power for a period not in excess of twenty years and for a renewal period of not more than ten years.^{1/}

"If any such contract is not renewed on or before the expiration of the original term, or of any renewal thereof, by express agreement of the parties aforesaid, or if the council does not complete the purchase of the subject matter thereof as hereinbefore provided, then the contract continues in full force and effect until such time as either party terminates it on six months' written notice given to the other with the approval of the Public Utilities Board."

^{1/} Sec. 269-1, 270 and 271-2-a.

The investor-owned utilities contend that, since the Power Commission has established service areas for each utility and the Public Utilities Board must approve rates, franchises are unnecessary. Calgary Power contends that:

"If there is a proper allocation of service areas, as we have advocated, by a central regulatory authority, we submit that no franchise system is needed. The adequate regulation of service areas and rates covers the essential points." 1/

The City of Edmonton turned the coin over. "How", they ask, "can a municipality negotiate for the best price available for power if they are limited, by virtue of a service area, to dealing with one supplier?"2/ The submissions of both parties in this regard serve to emphasize the importance of price determination by the regulatory board. Both are saying, in effect, that the municipality purchasing power cannot depend upon the adequacy of competitive forces to establish a price for power which is adequate to ensure continued and reliable supply, but not excessive. The fixing of a fair return to the utilities by the regulatory agency, and its required approval of rates, at least partially reconciles the co-existence of service areas and franchises. The abandonment of service areas would constitute an open invitation to power utilities to compete with each other for franchises. While such competition might benefit consumers in the short run, it could well lead to higher rates in the longer run as a result of the construction of unnecessary transmission lines.

1/ Transcript p. 1745

2/ Transcript p. 1811

Canadian-Northland objects to the uncertainties associated with periodic franchise renewals.

"We find it entirely unsatisfactory under the present arrangement whereby when a franchise expires there is always a long negotiation to renew it, and usually with the threat by the municipality that it will take over, and if a renewal is not agreed upon, as had been pointed out to you, the Municipal Act provides that the franchise is still renewed on an indefinite basis but subject to termination by the other party on six months' notice; now to operate, as has been pointed out to you, to operate a utility with the expectation that you will only have a six months' life, doesn't allow you to plan and expand in a manner to deal with the consumers' needs." 1/

The Advisory Committee entertains some reservations with respect to the feasibility of recommending the abolition of municipal power franchises. It is quite true that, given an allocation of service areas by the Power Commission and the approval of utility rates by the Public Utilities Board, the use of franchises does seem superfluous. However, the municipality has been given the right by the Municipal Government Act either to generate its own power or negotiate a franchise with a supplier. The abolition of franchises negatives this right, and in our view would lessen the autonomy of the municipality.

Municipalities may well believe that they can negotiate a better rate than they would otherwise receive. Rate making is an inexact science as we pointed out when cautioning about drawing black and white conclusions from rate comparisons. Rates differ in different areas depending

1/ Transcript p. 1768

partly upon costs which, in turn, depend upon distance, size of load and load factor. This inexactitude provides scope to any given municipality to improve its relative rate by skilful bargaining.

The larger municipalities may enjoy considerable bargaining power. The City of Calgary, prior to renewing its franchise with Calgary Power, investigated the possibility of purchasing power from the British Columbia Hydro and Power Authority, or of generating its own power at Ardley in co-operation with the cities of Edmonton and Red Deer.^{1/} Since the City of Calgary purchases more than one third of the power generated by Calgary Power, one would expect the private supplier to be somewhat sensitive to the possibility of losing this load. In any event, the City negotiated a franchise renewal at an initial reduction of 7.5 per cent in purchased power costs and was able, in turn, to lower its own retail rates.

The Committee does not profess to know whether a rate hearing for Calgary Power can be conducted expeditiously under the terms of the Water Resources Act and the Regulations thereto. We have doubts, since the Regulations are, in our view, extremely complex and, since the one lengthy effort which was made failed to resolve the relevant legal issues. For two reasons, then, the preservation of the autonomy of the municipality and the apparent difficulties of establish-

^{1/} Exhibit 22, Power Committee Report to City Council, Oct. 3, 1966.

ing a rate base for a water power licensee, we favour the retention of the franchise provisions.

A second objection was raised by the private utilities. Failing renewal, a franchise is continued subject to six months' notice by either party. The private utility companies argue that this provision gives the supplier too little time to effect an adjustment either to continue, or to terminate his supply commitment.

The Committee considers this to be a valid complaint; the uncertainty which such a short term arrangement creates is prejudicial to the best interests of both the supplier and the municipality in that it inhibits planning and the extension or improvement of facilities. Calgary Power has suggested that the franchise should be terminable only after five years' notice.^{1/} We think a three year period of notice would be adequate. Increasing the length of this "rolling" period of notice reduces the bargaining capacity of the municipality purchasing power. We think a three year period might constitute an acceptable compromise.

(i) Control and Integration of the Power System

In Chapter 1 we outlined the structure of the Alberta Power System, noting the saving in generating capacity, and increase in reliability, possible by inter-connection. Canadian-Northland, has well summarized the method and purposes of integration:

^{1/} Submission of Calgary Power to the Advisory Committee, p. 62

"The basic concept of the operation of the Alberta grid is that the major suppliers are responsible for the adequacy of the facilities for their own service areas; but that plant and transmission facilities, that additions to plant and transmission facilities, are carried out under the overall jurisdiction of the Alberta Power Commission to ensure an orderly development and to avoid the development of uneconomic excess capacity at any time. With respect to the actual operation of the system, the dispatching of load on the grid is done through close co-operation between the Production Department of Calgary Power and the City of Edmonton and ourselves.

"The arrangements on the interchange of energy are made from time to time between ourselves and Calgary Power as the circumstances dictate. A reserve sharing agreement has recently been concluded between the three suppliers mentioned previously, namely Calgary Power, the City of Edmonton and Canadian Utilities, the purpose of which is to ensure the adequacy of reserves for joint needs of all the parties.

"In brief, the reserve sharing agreement provides that each party will maintain generating facilities equal to 115% of its own system requirements. To the extent that any one party is deficient, the deficient party will pay to those meeting their commitments, such deficient party shall be deemed to have purchased from the other that shortage. I wish to emphasize that the agreement deals only with generating capacity and is not intended to be nor is it an agreement covering interchange of energy between the systems." 1/

The payment for deficiency of generating capacity under this agreement has been fixed at \$9 per KW.

The formalization of this agreement for sharing generating capacity is an integral part of an arrangement for the interchange of power. The City of Edmonton and Calgary Power have interchanged power; a shortage of power resulting

1/

Transcript of Hearings Before the Public Utilities Board in the Matter of Rates for Electric Energy to be Charged by Canadian Utilities Limited, Vol. 2, June 4, 1969, pp. 35, 36, 37.

from the outage of a large generator at Wabamun was overcome in this way. Canadian Utilities have "borrowed" power from Calgary Power, pending the installation of an additional large generating unit at Battle River. Calgary Power has purchased from Medicine Hat, power surplus to the latter's requirements, and resulting from the installation of a larger generating unit than the City needed at the time. Calgary Power and Canadian Utilities have also shared the operating and capital costs of a 240 K.V. transmission line from Wabamun to Slave Lake.

These arrangements, worked out voluntarily among the power utilities, have made possible a better use of scarce resources than would be possible by the utilities meeting their own needs voluntarily. The consumers of energy, as well as the utilities, benefit from this pooling and integration of resources.

Successful as these voluntary efforts have been, we can see advantages in giving the Power Commission an overriding authority to regulate the building of facilities in such a way as to achieve integration and the fullest possible use of existing facilities. There may well be occasion to select the location, size and fuel used in future generating capacity in order to minimize the generation costs of the system as a whole.

The past record of co-operation between the power utilities suggests that they will continue in the future,

voluntarily, to integrate their power systems. None the less, failing agreement, we think the Power Commission might well serve as a clearing house for such co-operative endeavours and should, indeed, be given the authority to develop plans for growth and integration of the system. The proposed draft of the Power Commission Act (Sec. 36) gives the Commission authority to integrate the power systems of both the privately owned companies and the municipalities. All of the power utilities in the province who appeared before the Advisory Committee were in substantial agreement with this proposal.^{1/}

The present Power Commission Act provides (Sec. 7-2') that "no proprietor shall construct, extend, alter or commence to operate an electric public utility without first obtaining the approval of the Commission." By virtue of the ambiguity of the definition in the Act of a "proprietor", it is uncertain as to whether or not this provision applies to municipally owned electric utilities. The Public Utilities Board Act (Sec. 81-1-e) grants to the Board authority to require the owner of an electric utility "to construct, maintain and operate . . . any reasonable extension of his existing facilities...". Since no municipal utility has voluntarily brought itself under the provisions of the Public Utilities Board Act, they are exempted from this provision.

^{1/} The City of Edmonton, while agreeing with the necessity for integration, was of the opinion that such integration could be achieved voluntarily, and that regulations designed to achieve that end should not be introduced until such time as these informal arrangements proved inadequate. Transcript p. 1842.

The only order, we are informed, which was ever issued by the Board under this section was in 1949 when, after a public hearing, Calgary Power was ordered to construct an "extension" to supply power in the Crowsnest Pass area. The company, in compliance, built its Kanelk transmission line to serve this area.

The Draft Power Commission Act removes this ambiguity and gives the Power Commission the authority to order extensions of electric power. The similar provision now included in the Public Utilities Board Act should be removed. We are in agreement, both with the intent of this revision, and the principle of including in the Power Commission Act all provisions relating to physical integration.

(j) Uniform Accounting Practices

An essential tool for the co-ordination and integration of the power system in the province would appear to be the development and use of a system of uniform accounting by all of the power utilities. Mr. J. G. MacGregor, the Chairman of the Power Commission, believes such a system of uniform accounts to be necessary to the planning and integration of the system.

"Because of the various methods of accounting, it is not now possible to compare the generating costs of the different power corporations -- either privately owned or municipal. So that comparisons can be made, the Commission proposes to set up in conjunction with the Public Utilities Board a standard system of accounting which both the Public Utilities Board and the Power Commission will adopt. This would be much along the

lines of the standard system of accounting which the Public Utilities Board has set up for regulating gas utility companies. Such systems have been adopted by the Federal Power Commission in the United States, and by the National Energy Board in Canada, and by various regulatory authorities particularly in the United States.

"Once comparable generation costs are available, the Commission will be able to show which power plants should be expanded, which should be retained without expansion, and which should be phased out, or used for peaking purposes only. There will also be a clear indication of which methods of generation should be given priority, having regard to available energy sources and distances from areas of probable load growth.

"Since there are several power corporations both privately-owned and municipally-owned in Alberta, and since there is a great discrepancy in their size, many difficulties may be experienced in striving towards this ideal. One practical consideration which must be observed at all times is that no corporation should be asked to do anything that will make its cost of power higher than if it were left to itself. In other words, when thinking of interconnecting two power corporations, one fundamental consideration must be that such interconnections can only be forced upon the corporations if each benefits by it. The rates which would form the basis of interchange of power between generating corporations would be one of the most important factors considered by the Commission, as it would be unthinkable to insist that one corporation buy power from another when it could generate that power less expensively on its own." 1/

Section 80-c of the Public Utilities Board Act
provides that:

"the owner of a public utility shall keep his books, records and accounts so as to afford an intelligent understanding of the conduct of his business and in accord with such uniform system of accounting as the Board may prescribe by regulations."

1/ J. G. MacGregor, unpublished memo. dated March 31, 1967.

The owner of a public utility is so defined as to exclude the municipal utilities and no regulations to the Act have ever been proclaimed. We think both of these deficiencies should be remedied. Sec. 54-c of the Draft Power Commission Act would give the Commission the authority to prescribe such regulations for all utility owners. As Mr. MacGregor indicates, such regulations should be formulated jointly by the two regulatory authorities in order that they may meet the needs of both.

The Public Utilities Board has developed a system of uniform accounts for gas utilities. It will prove difficult to formulate such a system for the electric utilities when these are regulated by legislation as disparate as the Water Resources Act and the Public Utilities Board Act. If both privately owned utilities were regulated under the latter Act the adoption of a uniform system of accounts would be greatly facilitated.

Chapter 3

REGULATORY PROCEDURES IN SOME OTHER JURISDICTIONS

In an effort to gain a better perspective of regulatory practice in this province, the Committee has interested itself in the regulatory procedures practised in other parts of Canada^{1/} and, to a lesser extent, in the United States. We turn now to a brief survey of utility regulation in Canada, apart from Alberta, which we will deal with in greater detail in Chapter 4.

(a) Regulation by the Federal Government

In Canada, federal government agencies regulate utilities involved in interprovincial or export trade. The Canadian Transport Commission was created in 1967 and took over responsibilities previously vested in the Board of Transport Commissioners, the Air Transport Board and the Canadian Maritime Commission. The Commission is charged with the regulation of railway, commercial air and merchant marine services and of interprovincial and international motor vehicle transport. It also has certain jurisdiction over telephones and telegraphs and regulates The Bell Telephone Company of Canada and the British Columbia Telephone Company.

The National Energy Board, established in 1959, is responsible for the regulation of the construction and operation of those oil and gas pipelines which are under the

^{1/} Limited inquiries and persuals of some legislation was considered adequate for the purposes of this review.

jurisdiction of the Parliament of Canada as well as the tolls charged for transmission. The export of electric power and the construction of transmission lines used for this purpose are also under the control of this board.

In the history of railway rate regulation in Canada the Board of Transport Commissioners has not determined rates on the basis of a rate base and an allowed rate of return. The Canadian Pacific Railway in its submission to the Royal Commission on Transportation of 1951 asked that the Railway Act be amended to provide for such a basis of rate fixing. The Royal Commission refused to accept this recommendation:

"If the proposed amendment submitted by the Canadian Pacific Railway were adopted it would tend to make the Board mere computers of a rate base and a rate of return, and calculators of the amount of increases necessary to bring about that rate of return. The Board should not be so atrophied. The Board's duty is to consider the justness and reasonableness of rates not only as a whole, but in particular as well. Fair return on property investment may be one of the tests; it must not be either the sole or guiding test." 1/

The general basis of regulation appears to be what has been called the "financial requirements" base. The Board has been concerned with the general and particular level of rates on the one hand and the necessary financial integrity of the railway on the other. Subject, as they have been, to severe competition from other forms of transportation, the two railways, and certainly the Canadian National, would probably

1/ Report of the Royal Commission on Transportation, 1950, p. 70.

have experienced difficulty in earning a fixed "reasonable" rate of return on their depreciated original cost rate base.

This approach was attempted in the United States after 1920, and although valuations of railway property have been made "at tremendous expense and over a period of many years", the Interstate Commerce Commission found that it was "impossible to prescribe rates which would give the railways as a whole a fair return on investment in railway property." 1/

(b) Regulation by Provincial Governments

The regulation of electric power utilities differs among the provinces since the pattern of ownership varies. Private power companies are operating on a relatively significant scale only in Newfoundland, Prince Edward Island, Nova Scotia and Alberta. In the others, the provincial governments, through the agency of a crown corporation, have assumed major, if not complete, responsibility for the generation, distribution and pricing of electric energy.

(i) Newfoundland

This province established in 1954 a commission, the Newfoundland and Labrador Power Commission, for the purpose of supplying power where needed and particularly to the rural areas. The Commission presently owns about 30 per cent of the generating capacity in the province and anticipates that this share will

1/ Ibid. p. 68

increase to 70 per cent by the end of 1970. Once the huge plant at Churchill Falls becomes operative the provincially owned share of capacity, as a percentage of the total, will drop sharply.

The Commission sells power, at wholesale, to privately owned local power utilities for distribution and, at retail, to industrial plants. The latter, although small in number, are large consumers. The investor owned utilities who retail power establish their own rates, although these must be approved by the Board of Commissioners of Public Utilities. As a crown corporation the Commission is not subject to the Public Utilities Board; its policy is to establish rates at such a level as to cover all operating and capital costs. In determining rates, the Commission does not include depreciation as a cost but includes rather debt servicing charges and debt retirement payments.^{1/} None of the municipalities distribute power.

The Commission also supervises and administers the rural electrification program. The government finances the capital development, provides an operating subsidy, and sets the rates charged to customers. The present policy is to fix

^{1/} This information was obtained by correspondence with Mr. W. W. Garland, C.A., Controller and Secretary to the Newfoundland and Labrador Power Commission.

Mr. Garland states that, "We do provide depreciation in our accounting records and thus in our financial statements, but it is not included in operating costs for determining rates. This depreciation for long life assets is based on the sinking fund method and on a straight line basis for short life assets."

rates sufficiently high as to cover 50 per cent of the operating costs for power generated by diesel engines and sold to general service users. The rates charged for hydro are comparable to those charged by the private utilities. Some two thirds of the 16,000 customers served by the rural systems are using power from diesel generation.

(ii) Prince Edward Island

Virtually all of the power generated and consumed on the Island is produced by a private company, the Maritime Electric Company Limited of Charlottetown, using a 70.5 megawatt steam turbine plant. The Town of Summerside has a municipally owned diesel plant which is used to supply peak load requirements. Practically all of its municipal power requirements is purchased from Maritime Electric.

The Town of Summerside establishes its own rate structure for customers within its corporate limits. Surplus funds derived from the operation of the electric utility are transferred to the consolidated revenue fund of the Town. All electric rates outside of Summerside are "controlled" by the Public Utilities Commission. The "Earnings Base" in the Province is prudent original investment less accrued depreciation.^{1/}

In discussing the determination of service areas for utilities Mr. Brennan offered this comment:

^{1/} This information was obtained by correspondence with Mr. W. R. Brennan, P. Eng., secretary to the Public Utilities Commission.

"Although there have been great changes in boundaries between various utilities, there has never been any serious difficulty in determining which utility will serve customers. In setting water and sewerage rates recently, a revision has been made so that regardless of which utility serves a customer within a given municipality, all customers within the same municipality pay the same rates. These are collected by the municipality in which the customer resides and if the customer is supplied by another municipality, they remit to that municipality for his service on the basis of that municipality's rates."

(iii) Nova Scotia

A crown corporation, the Nova Scotia Power Commission generates, transmits and distributes power in the province. It serves about one half of the Nova Scotia market, the other half being supplied by a private company, the Nova Scotia Light and Power Company Limited. There are 17 municipal utilities operating their own distribution systems in the Province. The municipally owned systems buy their power from the Commission and retail it within their municipal area. One municipality operates a small hydro installation which is used to reduce its peak demand for power from the Commission. This is the only instance where a municipal distributor also has a generating facility of its own.

The areas served by the two suppliers have been developed over the years and, apparently, there have been no disputes as to the boundaries of their respective service areas. The resolution of any such dispute would appear to be the responsibility of the Board of Commissioners of Public

Utilities. The Public Utilities Act, Chapter 258, R.S.N.S. 1967, provides:

"50(1) No public utility shall begin the construction of its line, plant, or system or any extension thereof in any territory already served by a public utility of like character, without having first obtained from the Board a certificate that the present or future public convenience and necessity requires or will require such construction."

"51(1) No public utility shall make any extensions to or changes in its line, plant or system which are likely to be detrimental to the service supplied by any other public utility without first giving reasonable notice in writing by prepaid post of the same to the chief office in the Province of such other public utility. The public utilities directly concerned may agree upon methods and specifications which will, so far as reasonably possible, minimize the detrimental effect on the service of such other public utility.

(2) In the event of the failure of a public utility to comply with the provisions of subsection (1) as to notice or in the event of failure so to agree, any of the parties directly concerned may make application to the Board for a hearing with respect to the matter in issue.

(5) In the event of a dispute or disagreement between two or more public utilities as to which public utility should serve any particular territory, the Board shall, after each such examination and inquiry as it deems adequate, determine the matter and the Board may, by order, direct which public utility shall serve the said territory.

(6) Without being limited by the foregoing provisions of this Section, the Board may at any time order a public utility to serve any particular territory not then served; provided, however, that no such order shall be made if, in the opinion of the Board, it would place an unreasonable financial burden on the public utility."

Some of the municipal utilities which have been able

to realize surpluses on their operations have turned such surpluses over to the municipal government to be used for general purposes. There has been a trend for municipal utilities to sell their operations which, with one exception, have been acquired by the Power Commission. This one, which was offered on a tender basis, was sold to the Nova Scotia Light and Power Company Ltd.

The Nova Scotia Power Commission has been specifically exempted by legislation from the provisions of the Public Utilities Act. Its own rate structure is subject to approval only by the Lieutenant-Governor-in-Council.

The Board of Commissioners of Public Utilities must determine or approve all rates charged by the private company and the municipal utilities:

"Rates charged by the municipal utilities must be submitted to the Board and all changes must be approved by the Board. These matters are dealt with upon formal application to the Board by the Municipal Council by petition in writing and after public hearing. Each year the Board hears a considerable number of minor rate applications. The latest major rate application made by Nova Scotia Light and Power Company Limited took place in 1963." 1/

These utilities are permitted to earn approximately 7% on a prudent, original cost, depreciated rate base. It may be worth noting that an amendment to the Public Utilities Act in 1923 provided that a public utility was entitled to earn

1/ As indicated in a letter to the Committee dated March 10, 1969, from W. D. Outhit, Q.C., Chairman of the Board.

annually an amount equal to 8% of the "fair value" of its property. In 1943 the statutory return provision of 8% was repealed; prudent original cost became the basis of valuation of property and assets instead of "fair value", and a public utility was declared to be entitled to earn annually "such returns as the Board deems just and reasonable" on the rate base determined by the Board. The Board has not determined different maximum levels of earnings for the municipally owned utilities and privately owned utilities as such.^{1/}

Where a valuation of a utility is ordered by the Board, the costs incurred may be charged to the utility and added to its rate base as a capital charge. (Sec.30-1,2,3.) These valuation costs are, however, removed from the rate base over a period of years by annual instalments chargeable to operating expense.

The Board requires that depreciation be calculated by the straight line method, and, although the depreciation rates used by each utility must be approved by the Board, no effort is made to enforce province-wide uniformity of depreciation rates. There are differences in the average service life of plant equipment in different parts of the province and, therefore, variations in rates of depreciation.

The Board, by regulation, prescribes a system of uniform accounting which it requires the utilities to follow.

^{1/} W. D. Outhit, Paper presented to Conference of Public Utilities Commissioners 1963, p. 27.

It proposes to update this system in the near future and to require additional sub accounts.^{1/}

The province has assisted the development of rural electrification by paying a part of the capital cost of extending services to rural customers. The rural customer makes a capital contribution to the utility in order to bridge the gap between the actual cost and the government's contribution. The Power Commission provides a loan facility whereby the farmer may finance his capital contribution by borrowing up to \$4,000, repayable over 12 years and at current rates of interest.

The Power Commission and the private utility (N.S.L. & P.) are administering rural electrification extensions in their areas and providing power without operating subsidies from the government. Some 99 per cent of the province is now served with electricity.

In summary, then, the Power Commission determines its own selling prices; the Public Utilities Board decides who shall serve which areas and establishes rates for the private power companies and the municipalities on the basis of a depreciated original cost rate base.

(iv) New Brunswick

A crown corporation, the New Brunswick Electric

^{1/} W. D. Outhit, letter of March 10, 1969.

Power Commission, supplies power directly or indirectly to over 95 per cent of the province. Three cities, Campbellton, Edmundston and Saint John, operate their own municipal electric utilities. The first two have their own generation facilities which are integrated with those of the Commission; Saint John purchases its power from the Commission.

The small municipality of Andover Perth is generating and distributing its own power while one village, Black's Harbour, is served by the only private utility in the province. We are advised that this company is presently negotiating for the sale of its generating and distribution facilities to the Commission.

All of the other cities, towns and villages in the province are served directly by the Commission although all municipalities enjoy the right to generate and distribute their own power. Apparently no problems have arisen as a result of changes in municipal boundaries. Agreement between the municipalities and the Power Commission for sale or purchase of distribution facilities in the annexed areas have been reached on the basis of mutual agreement.

With the exception of the Power Commission, all public utilities in the province are regulated by the Public Utilities Commission. The Power Commission may fix its own rates and also determine the price at which any electrical energy which it supplies may be resold by "any municipality,

corporation, person or hydro-electric district."^{1/}

The Municipalities Act (Sec. 188) provides that a municipality distributing electric power may make such charges to the user of the utility as to produce either an annually or triennially balanced budget. Surpluses or deficits may be credited or debited against the budget for the utility for the second next ensuing year or may be spread over a three year period beginning with the second next ensuing year.

The Electric Power Act (Sec. 21) provides that the Commission shall fix and charge such rates as will enable it to pay all operating expenses, to provide for "renewal, reconstruction and expansion", to meet interest on working capital, to meet any unforeseen expenses caused by destruction, and "to maintain such reserve, depreciation and surplus accounts as are maintained by a properly managed corporation." One might infer that rates are set upon the basis of "the financial requirements" of the Commission.

The Act provides for the organization of Hydro Electric Districts to purchase power from the Commission and to distribute such power in rural areas. The elected commissioners of such a district are empowered to levy taxes on real and personal property and to collect a poll tax to support such power extensions. (Sec. 47-2).

^{1/} Electric Power Act, Section 35-6.

In summary, the Power Commission supplies and prices most of the power produced in the province either directly, or through the municipalities and hydro electric districts. It also determines the service areas of privately owned power suppliers and may require the latter to extend service to particular customers or areas if it appears to the Commission that the private corporation will receive an adequate return upon its necessary investment (Sec. 34-5).

(v) Quebec

The Quebec-Hydro Electric Commission was established in 1944. In 1963 the Commission acquired ownership of the remaining major private power companies in the province.

"As a result of these transactions, all electricity production, except for facilities operated by certain industrial organizations in their own manufacturing operations, was brought under the control of a single authority. The services of the Commission now cover virtually the entire province except for local distribution of small amounts of electricity by some municipalities, most of which is purchased from the Commission or its subsidiaries." 1/

Although most of its customers are served directly, Quebec Hydro has 13 contracts with municipal systems and one with a co-operative. A few private distribution systems are still operating in the province.

Quebec Hydro establishes its own selling price and conditions of sale as is apparent from Section 22 of the Hydro-Quebec Act.

1/ Canada Year Book 1968 p. 683

"The object of the Commission shall be to supply power to the municipalities, industrial or commercial undertakings and citizens of this Province at the lowest rates consistent with sound financial administration.

"It shall establish the tariff applicable to each class of consumers according to the real cost of the service furnished to such class, in so far as practicable.

"The rates and conditions upon which power is supplied shall be fixed by by-law of the Commission or determined by special contracts between the Commission on the one hand and municipalities, electricity co-operatives or industrial or commercial undertakings, as the case may be, on the other. Such by-laws and contracts must be approved by the Lieutenant-Governor-in-Council."

The decisions of the Commission are not subject to appeal to the courts.

The Act provides (Sec. 24) that the Commission shall maintain its prices for power at a sufficient level to defray:

- (1) All operating costs
- (2) Interest upon the capital invested
- (3) Amortization of such capital over a maximum period of fifty years
- (4) An adequate reserve for the renewal of the system
- (5) A reserve for contingencies
- (6) A reserve for the stabilization of rates

Any surplus funds available to the Commission after the establishment of reserves are to be paid into the consolidated revenue fund of the province upon the requisition of the Minister of Finance.

The thirteen municipalities which have wholesale contracts with Hydro Quebec do not have their retail rates regulated by either this authority or the Electricity and Gas Board which regulates privately owned gas and electrical utilities. The Electricity Municipalization Act empowers municipal councils "to establish and administer (their) electricity system" (Sec. 6) and to determine their own rate structure (Sec. 8-1).

Section 43 of the Hydro Quebec Act authorized the Executive Council to advance to the Commission up to \$10 million for the construction of electric distribution lines for the service of rural areas. These advances are repayable over a period of not more than fifty years at two per cent interest.

The Commission is also empowered to grant loans, either directly, or through the agency of municipal corporations or co-operative syndicates, for the cost of electrical installations on a farm capable of being served with power. These loans, limited to a period of ten years, may not exceed \$300 per farm.

In the Province of Quebec, then, power is supplied for the most part directly to consumers by a crown agency, Quebec Hydro. Those municipalities which distribute power are free to establish their own rate structure. Quebec Hydro determines its own rates on the basis of its financial requirements.

(vi) Ontario

The province of Ontario has organized its major power generation and distribution facilities as a quasi-co-operative. The Hydro-Electric Power Commission of Ontario is both an operating and a regulatory agency. The Commission generates and transmits power which it sells at "cost" to some 354 participating municipal utilities who, in turn, retail it to their customers. The Commission also makes direct sales to some 87 industrial establishments and directly to rural customers or, in some 30 municipalities where the Commission itself owns the distribution facilities, to urban consumers.

This organization may be described as a quasi-co-operative since the municipal commissions purchasing power from Ontario Hydro acquire an equity in this latter organization. The rates which they pay include a capital component designed to retire Ontario Hydro's long term debt. This debt represents investment in power facilities. In this way the municipalities had acquired, as of December 31, 1967, an equity of some \$456.8 million in Ontario Hydro's net assets of \$3.4 billion. The Power District, which includes direct consumers outside urban municipalities, have an equity of some \$176.2 million.^{1/} In the aggregate, then, these equities amount to some 18 per cent of Ontario Hydro's net assets.

Ontario Hydro in selling power to its associated

^{1/} 1967 Annual Report, The Hydro Electric Power Commission of Ontario, pp. 28, 30.

member municipalities "at cost", defines cost as including:

"a payment for power purchased, charges for operation, maintenance, and administration, and related fixed charges. The fixed charges represent interest, an allowance for depreciation and a provision for debt retirement. The municipal utilities operating under cost contracts with the Commission are billed throughout the year at interim rates based on estimates of the cost of service. At the end of the year, when the actual cost of service is established, the necessary balancing adjustments are made in their accounts. Retail rates for the municipal utilities are established at levels calculated to produce revenue adequate to meet cost." 1/

The rates "chargeable by any municipal corporation generating or receiving and distributing power are subject at all times to the approval and control of the Commission." 2/

Similarly the Commission must approve any municipal borrowing done for purposes of improving or extending the power system and must approve the municipal commission's accounting practices.^{3/}

The Power Commission Act also provides that:

"Whenever it appears from the accounts of a municipal corporation or municipal commission receiving electrical power from the Commission for distribution that there is a surplus of revenue derived from or pertaining to an electric utility over the expenses thereof after providing for any payments required to be made on account of principal or interest of any debentures issued for the construction and equipment of works for the production, development, distribution or sale of electrical power, and for such depreciation and other reserves as the Commission deems proper, the surplus shall be applied and disposed of in such manner as the Commission by general regulation or special order directs." 4/

1/ Ibid. p. 4

2/ The Power Commission Act of Ontario, R.S.O. 1960, Ch.301, Sec.99.

3/ Ibid. Secs. 98 and 100

4/ Ibid. Sec. 106

The guidelines used by the Commission in pricing power to the ultimate consumer may be summed up in this way:

"It is the Commission's policy to have municipal commissions establish retail rates at levels calculated to return adequate revenue to meet the costs of operation, including appropriate allowances for depreciation of facilities and the repayment of long-term debt, and to provide in addition some reasonable margin of reserve to facilitate the internal creation of capital funds. Within this general framework, the maintenance of reasonable stability in rates is the prime concern." 1/

Some municipalities generate a part of their own power or purchase power from suppliers other than the Commission. If they purchase a part of their power from the Commission, they sign an agreement undertaking to regulate their own power generation and other power purchases in a manner acceptable to the Commission.

The allocation of service areas has, apparently, caused no problems. Again quoting from Mr. Hambley:

"When a municipality extends its boundaries by the annexation of some part of the area served by the Power District, the normal procedure is to transfer direct customers of the Commission to the local utility, and to transfer the distribution facilities at depreciated cost together with that portion of the power system equity applicable thereto. In some exceptional circumstances, particularly if there are manifest advantages to the municipality concerned, the Commission may continue to serve a direct customer within the municipal boundaries."

Ontario has also provided financial help for rural electrification:

1/ Quoted from a letter to the Committee of January 16, 1969, from Mr. J. M. Hambley, General Manager, The Hydro Electric Power Commission of Ontario.

"Over many years subsequent to the enactment of the Rural Hydro Distribution Act in 1921, the Province, as a form of assistance to the agricultural industry, contributed half the initial capital invested in the extension of rural distribution facilities. In 1957, the rural community in Southern Ontario was virtually completely served with electric power, and in recognition of this fact, the provincial contributions were discontinued beginning in that year. The practice has been continued in Northern Ontario where the present annual contribution is approximately \$1 million. The total contribution at the end of 1968 will, therefore, be in the vicinity of \$121 million." 1/

The Public Utilities Act provides a municipality may produce any utility service for its own use and that of its inhabitants (Sec. 18-1) and may fix the rates charged for such utility services at its discretion (Sec. 27-2). Only when the municipality enters into a contract to purchase power from Ontario Hydro does it become liable to the conditions which are outlined above with respect to its electric utility.

In summary, Ontario Hydro is, in effect, a publicly owned power system covering the entire province. Because of the quasi-co-operative nature of its organization, the users of power rather than the public, own the system. However, since the users of power and the public are, in effect, the same group, the distinction is more apparent than real. None the less, this type of organization may have real psychological advantages in that it gives the individual power consumer a sense of participating in the ownership of "his" utility which is supplying him with power "at cost". Such a proprietary interest minimizes any possible disagreement as to service areas and

1/ Ibid.

establishes a favourable climate of public opinion which is conducive to good management. Ontario Hydro has long enjoyed an enviable reputation as a well run public utility.

(vii) Manitoba

A crown corporation, Manitoba Hydro, produces and distributes power throughout the province. Winnipeg Hydro, a municipally owned utility, serves the customers within the original boundaries of the City of Winnipeg. It does not serve any customers beyond those boundaries nor does Manitoba Hydro serve any customers within them.^{1/}

All other consumers in the province are served directly by Manitoba Hydro with the exception of consumers in Flin Flon and Snow Lake who are supplied by Hudson Bay Mining and Smelting Co. Limited and customers at Lynn Lake who are supplied by Sherritt Gordon Mines Limited. Manitoba Hydro has made an agreement to supply in 1970 the customers at Lynn Lake and the mine and to take over Sherritt Gordon's generation facilities.^{2/}

The rates charged to consumers in these smaller centers and to the customers of Winnipeg Hydro are under the jurisdiction of the Public Utilities Board of Manitoba. We understand that Winnipeg Hydro has for many years yielded a surplus on its operations and that a large proportion of this surplus has been made available to the City for general purposes.

^{1/} Letter to the Committee, dated January 2, 1969, from Mr. W.D. Fallis, Chairman and General Manager, Manitoba Hydro.

^{2/} Ibid.

The Public Utilities Board Act (Sec. 61) provides that:

"where rate base is a factor in determining just and reasonable rates or tolls, the board shall allow a rate of return based on a rate base that includes as basic elements

- (a) the original or historic cost of the assets, used and useful and prudently acquired, less depreciation, and
- (b) a reasonable amount for the working capital required for the operation of the business."

When the original agreement between the City of Winnipeg and Manitoba Hydro was concluded the boundaries within which Winnipeg Hydro would supply power were defined as the boundaries of the City as they existed at that time. Since then the boundaries of the City have been extended but Manitoba Hydro continues to serve those customers outside the original boundaries of the City.

When Manitoba Hydro was established by Act of the Legislature in 1961 it assumed the obligations and debts of the Manitoba Power Commission. The Manitoba Hydro Act (Ch. 28, S.M. 1961) provides that no person shall supply power in Manitoba, unless he was so doing on June 18, 1940, without the approval of the Lieutenant-Governor-in-Council.

The Act also enables the Corporation from time to time to adjust the price which it charges for power (Sec. 40-2). Such rates shall include a return to the corporation sufficient

to cover the necessary operating expenditures, interest and debt service charges and to accumulate such reserves as are necessary to amortize construction costs and to stabilize rates. (Sec. 30).

The Corporation may apply to the Public Utilities Board for a determination by it of the price that the corporation should charge for power (Sec. 40-3). The Corporation has recently referred its complete rate schedule to the Public Utilities Board following a general rate increase in July of 1968. Any customer can also appeal his rate to the Public Utilities Board although no such appeal has ever been made.

The construction costs for farm and rural electrification in Manitoba are paid by Manitoba Hydro.

(viii) Saskatchewan

A crown corporation, the Saskatchewan Power Corporation, generates, transmits and distributes electrical power and gas in the province. Practically all sales are direct to consumers; exceptions are the cities of Saskatoon and Swift Current, the town of Battleford and the hamlet of Waskesiu which purchase bulk power and distribute it to their inhabitants.

The Power Corporation Act empowers the Lieutenant-Governor-in-Council to establish the rates and terms for the supply of power and gas to its customers (Chap. 40, RSS 1965, Sec. 33-5).

"Saskatchewan Power Corporation is not limited by statute to provide power on a cost basis. Rates and terms and conditions of supply are established to meet the requirements of the financial policies as determined by the Board of Directors." 1/

The Corporation may, at any time, by written notice to the Council, change the rates which it charges for direct sales to consumers of power in any municipality (Power Corporation Act Sec. 36-1). The Council may appeal any such rate to the Local Government Board whose decision is final. No appeal is permitted on a rate for bulk sales to a municipal corporation for resale (P.C. Act Sec. 36-5 and 8).

The Corporation has no regulatory authority over the rates charged by urban municipalities who distribute power. The consumer in such municipalities does not enjoy the right to appeal against the rate charged to him. The right of such appeal is provided for in the Gas and Electrical Rates Act (Chap. 137, RSS 1965 Sec. 11), but the relevant section of this legislation has never been proclaimed.

Direct customers of the Saskatchewan Power Corporation have in some instances been transferred to municipally owned systems and, conversely, by mutual agreement to the Corporation from the municipality. However, an amendment to the Power Corporation Act in 1958 limited the urban municipal distribution franchises to the 1958 corporate boundaries of

1/ Letter of January 8, 1969, to the Committee from Mr. D.B. Furlong, General Manager of the Saskatchewan Power Corporation.

the municipality. The Corporation may consent to the municipality supplying customers outside these boundaries.^{1/}

The Corporation may, with the approval of the Lieutenant-Governor-in-Council, expropriate any property which the latter deems necessary for the purposes of the Corporation. The Act specifies that the compensation to be paid shall be "fair replacement value" excluding any allowance for franchise rights, good-will or future earnings.

The Corporation has built and operates the rural electric system under the authority of the Rural Electrification Act. Capital costs were divided between the Corporation and the customer, and, in effect, the customer has paid about 60 per cent of construction costs as a non-refundable capital contribution to the system. The Corporation owns the rural lines.

(ix) British Columbia

Apart from a few large industries which generate their own power, the British Columbia Hydro and Power Authority supplies virtually all of the electrical energy produced and consumed in the province. New Westminster buys power in bulk from B.C. Hydro and, in turn, retails it to householders and commercial customers. B.C. Hydro supplies the industrial customers within the city.

^{1/} Ibid.

Having purchased East Kootenay Power, B.C. Hydro is wholesaling power to Cranbrook, Kimberley and Fernie. However, since it is not the policy of the Authority to sell bulk power to municipalities for resale, it is negotiating with these three towns and New Westminster for the purchase of their distribution facilities.^{1/} Although the City of New Westminster has recently annexed an area which was served by B.C. Hydro, the Authority has continued to supply power to this area.

The Public Utilities Commission regulates municipal utilities only with respect to services supplied outside their corporate boundaries. The Public Utilities Act in its definition of a "public utility" excludes a municipality with respect to services furnished by the municipality within its own boundaries (Sec. 2). Hence these four municipalities who are presently distributing power are free to establish their own rate structure; where it does establish or approve rates, the Public Utilities Commission applies "an original or historic cost rate base."^{2/}

B. C. Hydro is exempt from the provisions of the Public Utilities Act and determines its own rates.

The Provincial Government has been making an annual grant of \$1 million to B.C. Hydro to assist in paying the cost of rural electrification. For the fiscal year 1969-70 this grant has been increased to \$2 million. The greater part of

^{1/} Letter of December 31, 1968, to the Committee from Dr. G.M. Shrum, Chairman B.C. Hydro and Power Authority.

^{2/} Letter of April 25, 1969, to the Committee from Mr. H.W. Mellish, Secretary to the Public Utilities Commission.

this grant appears to have been used for capital purposes but some operating losses incurred in supplying power to remote areas has been charged against it.

(x) Summary

The generation and distribution of power by investor owned companies, excepting those industries supplying their own requirements, have virtually disappeared in the major power producing provinces of Canada, apart from Alberta. Public power is now the rule, rather than the exception. Marketable power in the provinces of Quebec, Ontario, British Columbia, Manitoba, Saskatchewan and New Brunswick is almost all supplied by publicly owned firms. Private power is a significant part of the provincial output only in Nova Scotia, Prince Edward Island and Newfoundland.

Eight of the ten provinces have crown agencies which are generating and distributing power. Alberta and Prince Edward Island are the exceptions. In these eight provinces the power commissions establish the price at which they sell power and, most of them also regulate the retail selling prices of the municipalities whom they supply. The power commission, or the Lieutenant-Governor-in-Council is also, typically, given jurisdiction over service areas -- i.e. the determination of who shall sell power and where. In Nova Scotia the Public Utilities Board performs this function, in New Brunswick the Power Commission, and hence the latter thus becomes both an operating and regulating authority.

Statutory provisions have usually established guidelines for rate making purposes for the public power agencies and these are on a "financial requirements" base. The agency is authorized to set rates high enough to recover operating expenses, replacement of existing and acquisition of new plant and equipment, debt retirement and reserves for rate stabilization. Concern over determination of the exact rate of return on a depreciated rate base appears to be minimal.

Regulation of privately owned electric utilities, where these still exist, is typically the responsibility of the public utility boards or commissions. The basis prescribed for rate setting is a "reasonable" rate of return on a depreciated original cost rate base. Municipalities generating and/or distributing their own power may or may not enjoy autonomy in fixing rates; they may or may not be permitted to use electric utility surpluses for general municipal purposes. If they purchase power from the provincial commission they are usually subject to the supplier's regulatory jurisdiction, as in Ontario, but sometimes, as in Nova Scotia, to the regulation of the Utilities Board.

In British Columbia and Saskatchewan it would appear to be provincial policy to have the provincial power commissions solely responsible for the distribution of electric power and to have them acquire the few remaining distribution systems owned by municipalities.

In Manitoba, the municipally owned Winnipeg Hydro enjoys an exclusive franchise within the original boundaries of the City of Winnipeg but cannot serve customers within the annexed areas. The rates of the municipal utility are subject to the regulatory authority of the Public Utilities Board. Manitoba Hydro, which is also both an operating and regulatory body, has recently referred its rate structure to the Public Utilities Board for an appraisal.

In most provinces either the provincial government or the power commission has assumed a part of the capital cost of extending power to rural areas and, in some instances, as in British Columbia, a part of the operating costs.

It is apparent that the pattern of regulation in the provinces varies widely; it is equally apparent that there has been a trend toward public power. The Committee has not attempted to ascertain the reasons for this trend; the most likely hypotheses would appear to be the federal tax structure prior to remission of the income tax and the difficulties of regulation and integration of privately owned facilities.

A knowledge of the regulatory practices in other provinces is interesting and useful; it does not, in itself, provide answers. It is possible to find a precedent or parallel for many approaches, not all of which are best suited to conditions in Alberta.

(c) Regulation in the United States

The regulation of "natural monopolies" providing utility services has evolved in the United States over the past century. The development of the administrative commission is hailed by some writers as a distinctive American contribution to the science of government.^{1/} The evolution of this form of regulation developed from trial and error. Court regulation to ensure to the consumer the common law right of adequate utility service at reasonable rates failed to provide continuing forward looking regulation of rates and service. An unreasonable rate could be disallowed; a reasonable rate could not be prescribed since such action was beyond the jurisdiction of the court.

Corporate charters issued by state governments also proved ineffective in that they were inflexible while the local conditions under which utilities operated were diverse and changing with a rapidly developing technology. To meet this challenge local governments assumed regulatory authority which they exercised through franchises.

Electric utilities were consolidated after World War I and since one utility served many local communities, the state utility commissions were established. The franchise granted by

^{1/} Paul J. Garfield and Wallace F. Lovejoy, Public Utility Economics, Prentice Hall 1964 p. 27.

the local government became integrated with service areas established by the state commissions through the issue of "a certificate of public convenience and necessity". These area allocations are not always specifically exclusive but the refusal of the state commission to grant more than one for any particular area preserved the monopoly status of the utility.

Regulation by franchise still persists in a significant number of communities in the United States where the city council establishes its own utility rates. In many, but not all, jurisdictions these rates may be appealed to the state commission.

Franchises by themselves do not provide an effective means of utility regulation. An essential prerequisite of successful utility regulation is that the jurisdiction of the regulatory authority should be co-terminus with the areas served by the utilities which are being regulated. Regulation by franchise is essentially regulation by contract and is not sufficiently flexible with respect to the term of the franchise, conditions of renewal and rate adjustment as to keep in step with the changing economic and technological environment.

(i) The State Public Utilities Commission

Since this type of regulatory organization, with variations in detail, has been adopted by all of the Canadian

provinces, a brief survey of the American experience may prove helpful. As in Canada, the authority to regulate intrastate public utility operations in the United States rests with the state legislatures. The legislature has established the utility commission and delegated to it the authority to regulate the rates, quality of service, service areas and accounting procedures of the utilities operating within the state.

The Wisconsin statute, passed in 1907, has served as a model which many other states have followed in varying degree.

"The law required the Commission: (a) to determine the valuation (for rate making purposes) of the property of each utility; (b) to be informed of all utility construction; (c) to prescribe mandatory systems of accounts; (d) to determine annual rates of depreciation; (e) to provide for examinations and audits; and (f) to keep itself informed of the conduct of utility management. Each utility was required to post its rates with the commission and to charge only these rates. The commission was authorized to investigate, on its own motion or on the motions of others, the rates of service of a utility. If, after proper investigation, the commission found the service in question to be substandard or the rates unreasonable or unjustly discriminatory, it could prescribe reasonable rates or adequate standards of service which would be mandatory upon the utility. Appeal to the courts for review of commission orders was provided, with the burden of proof on the party contesting the commission's order." 1/

All 50 states have commissions; all but a very few of these have some power to regulate the electric rates of privately owned utilities.

Although public ownership of power generating and

1/ Garfield and Lovejoy, op. cit. p. 34.

distribution facilities is an important part of the industry in the United States (about 25 per cent of output), it does not supply as large a share of the market as in Canada (more than 90 per cent). Many American cities and towns generate and/or distribute their own power. These tend to be smaller centers, with some notable exceptions such as the City of Los Angeles and Jacksonville, Florida. Their number has declined as municipally owned systems have been sold to investor-owned utilities. Although there are more than 2,000 of these municipal systems, somewhat fewer than 500 have annual gross revenues in excess of \$250,000.^{1/} Many of them distribute power generated by federal power projects in which case they are regulated by the power generating authority -- e.g. TVA or the Bonneville Power Authority.

The municipal electric utilities are, for the most part, autonomous.

"The state commissions have relatively little regulatory jurisdiction over the rates of the municipally owned public utilities. The commissions in seven states have relatively comprehensive jurisdiction over the rates charged by the different types of municipal utilities. Six other state commissions have rate jurisdiction over some but not all of the different types of municipally owned utilities." ^{2/}

This general picture of the comparative lack of state regulation of municipal utilities was outlined in an exhibit

^{1/} City of Edmonton, Submission to the Special Committee, p. L Appendix 1-17.

^{2/} Garfield and Lovejoy, op. cit. p. 262. This summary is for the year 1960.

presented to this Committee by the City of Edmonton and prepared by Van Scoyoc and Wiskup Inc. Mr. Van Scoyoc states that control or regulation of municipal utilities by a state commission is exercised in only 10 of the 50 states, "generally to the same extent as privately owned utilities", while regulation in 5 other states is applicable to municipal system operations that are outside of the corporate boundaries. Further,

"a municipality may exercise its power of Eminent Domain to acquire the property of a privately owned utility system regardless of the fact that the privately owned utility held an exclusive franchise from the municipality. Where municipal utilities have been subjected to state regulatory commission jurisdiction, the authority of the commission may be a prerequisite to such competitive endeavour or the ousting of the privately owned utility from within the municipal boundaries . . . Where an area is annexed by a municipality that is served by an existing privately owned utility, or rural co-operative, the right of such utilities to continue such service is generally considered to be terminated."

"Municipal utilities are not obligated to extend their facilities outside of their corporate boundaries to particular persons or areas. However, where municipal systems are subject to the jurisdiction of a State regulatory commission, they may have the same obligation to provide service within and outside of the corporate boundaries as would be required of a privately owned utility." 1/

In some fourteen states the municipal utilities are required by law to use a comprehensive uniform system of accounting. Utilities supplied by TVA are under contract to employ the uniform system of accounts prescribed by the Federal Power Commission. Utilities in the State of Washington using

1/ The City of Edmonton, op. cit. p. L 3. Appendix 1-16.

power from the Bonneville Power Administration are required to use a uniform system of accounts with the State Auditor exercising surveillance.

The Federal Power Commission also solicits annual data from the larger municipal power utilities.

(ii) Regulation at the Federal Level

The federal government in the United States, as in Canada, exercises regulatory authority over electric utilities which transmit power over state or national boundaries. Although established in 1920 the Federal Power Commission did not really become an effective regulating agency until the passage of the Federal Power Act of 1935. Prior to this time a utility involved in inter-state trade was beyond the scope of both state and federal regulation.^{1/} The five man federal commission appointed by the President has grown in power and stature over the years and is now one of the most important of the federal regulatory agencies.

The Commission has jurisdiction over the rates and services of the companies under its jurisdiction, the disposition, merger or consolidation of facilities, the acquisition or issuance of utility securities, the export of energy and accounting and depreciation practices.

^{1/} The effect of the Supreme Court decision in the Attleboro case of 1927 was that neither the forwarding or the receiving state had jurisdiction over the transmission of power across a state line. Eli Clemens, Economics and Public Utilities. Appleton-Century-Crofts, p. 425.

The Commission is also empowered to grant licenses for the construction and operation of non-federal hydro-electric power facilities on any of the streams over which Congress has jurisdiction which includes all "navigable" rivers. Licenses are issued for a period not exceeding 50 years at the expiration of which the government may take over the property at original cost less accrued depreciation.

The federal government, any state or municipality, may take over a licensed project, at any time, by condemnation and upon the payment of just compensation, notwithstanding the existence of an exclusive franchise. The Commission has assumed that it cannot expropriate where the states have regulatory agencies which includes practically all states where there is water power. Where the state commissions regulate power sold in their states, the FPC has refrained from doing so.

The Federal Power Commission has traditionally used an original cost depreciated rate base in regulating interstate wholesale rates. The state commissions for the most part use this method but some use a so-called "fair value" rate base which may take into account the effect of changing prices upon the value of capital assets. Fair value is a compromise between original cost and reproduction cost. The utility companies are inclined to view a fair value rate base as a means of protecting the holder of utility common stock from the eroding effects of inflation.

The development of methods used in valuing plant and equipment has a long background of legal precedents. It is of some significance to regulatory practice in Alberta because of the original cost methods of valuation used by the Public Utilities Board and the present value approach as set forth in the Water Power Regulations. Since the relative advantages of these two approaches were argued at some length in evidence submitted to this Committee, we have examined their merits in Chapter 2 of this report.

In summary, the regulatory practices in the United States parallel those employed in Canada and undoubtedly the American experience has had its influence on the development of Canadian practice. The National Energy Board, which is the Canadian counterpart of the Federal Power Commission, is of recent origin and, relatively to the provincial regulatory agencies, has to date, played a much less important role in electric utility regulation in this country.

Chapter 4

THE REGULATORY STRUCTURE IN ALBERTA

The electrical utilities in Alberta are subject to regulation under various acts and regulations. These differ depending upon whether the utility is owned and operated by a municipality, or is an investor-owned company subject, or not subject, to the Water Resources Act. There are thus three regulatory systems, although these may, and do, overlap with respect to any particular electric utility. These three systems apply respectively to the municipalities, to the two investor-owned companies not subject to the Water Resources Act, i.e. Canadian-Northland, and to the one investor-owned company, Calgary Power, which is governed by the Water Resources Act.

(a) The Regulation of Municipal Utilities

The municipalities in Alberta have long enjoyed a very considerable degree of autonomy in the operation and management of their electric utilities. Under the provisions of the Municipal Government Act they have the exclusive right to generate, distribute and price power within their original corporate limits or, if they so elect, to grant a franchise to a supplier, either to furnish the municipal corporation with power for distribution and resale or to supply residents directly.^{1/}

^{1/} Municipal Government Act, Sec. 273, with respect to generation and distribution; Sec. 277-b with respect to pricing; Secs. 269-1 and 270 with respect to franchises.

In areas which have subsequently been annexed to the municipality a condition of annexation has been that existing contracts for the supply of utilities shall not be affected or abrogated by the annexation.^{1/} The annexing municipality becomes a party to the original contract in place of the municipality from whose jurisdiction the area has been transferred.

Utility companies may supply power to an area under either of two arrangements:

- (1) A franchise negotiated by the council of the municipality with the utility company and approved by the Public Utilities Board. Such franchise, or contract, may have an initial term not exceeding twenty years and be renewed for successive terms not exceeding ten years each. If the contract is not renewed the municipality has the right to purchase the distribution facilities of the company by agreement between the two parties, or, failing agreement, for such price and terms as may be determined by the Public Utilities Board. The necessary notice of renewal is six months; the municipality must advertise its intention to enter into an initial franchise and, upon petition, submit the decision to a plebiscite. ^{2/}
- (2) A permissive order granted a power company upon application of the company, by the Public Utilities Board, with the approval of the Power Commission and the Council of the municipal district.^{3/} These permissive orders have been granted to

^{1/} Local Authorities Board Act Sec. 127

^{2/} Municipal Government Act, Sec. 269, 270, 271 and 311.

^{3/} Public Utilities Board Act, Sec. 97.

cover the extension of power in specific parts of a county, municipal district, or improvement district where use of a franchise is impractical. They are not limited to a specified period and hence have no termination date. Although a permissive order does not confer exclusive rights, in practice, only one has ever been granted for a particular area. Duplication of service may arise when an area covered by a permissive order is annexed to a municipality and the latter also has the apparent right to supply power to the annexed area which is now within its corporate limits.

(i) Rates

In other provinces the autonomy of the municipalities with respect to setting their own electric power rates differs as we have outlined in Chapter 3. In Newfoundland there are no municipal utilities either generating or retailing power. In Prince Edward Island the one municipality which generates, the town of Summerside, establishes its own rates. In Nova Scotia, the rates of municipalities are regulated in the same way as those of private utilities, by the Board of Public Utilities Commissioners. New Brunswick regulates municipal rates but over 95 per cent of the power is produced and distributed by the New Brunswick Power Commission which sets its own rates.

The thirteen municipalities in Quebec which have wholesale contracts with Quebec Hydro are free to set their own rates. Most of the municipalities in Ontario buy power from their own co-operative, Ontario Hydro, and the latter must approve their retail rates. Those municipalities who do not purchase from Ontario Hydro are free to set their own rates.

In Manitoba the rates of the municipal utility, Winnipeg Hydro, are under the jurisdiction of the Public Utilities Board. The few (4) municipalities in Saskatchewan which distribute power are free to establish their own rates. In British Columbia almost all sales are made at the retail level by the B.C. Hydro and Power Authority. The few municipalities who still distribute their own power are subject to rate regulation only on sales beyond their corporate limits.

Thus the degree of autonomy of the municipalities with respect to the pricing of power varies among provinces but over 90 per cent of Canadian power production is generated by publicly owned utilities. When a public corporation supplies power wholesale to a municipality it frequently assumes control of the municipal retail rates.

Mr. Van Scoyoc states that in the United States:

"only ten State public utility commissions have comprehensive regulatory jurisdiction over municipal electric utilities comparable to that applicable to private utilities." 1/

In that country some 75 per cent of total electric output is generated by investor-owned companies. Municipalities distributing the low priced power available from such public authorities as TVA and the Bonneville Power Authority, are regulated as to the rates at which they can retail to their consumers. In this way power users are assured of participating in the direct advantages made possible by public capital investment in these

1/ Submission of City of Edmonton p. L Appendix 2-1.

generating facilities.

The Alberta municipal utilities contend that the municipal councillors are directly responsible to their electorate for the level of municipal power rates and that rate regulation by a provincial regulatory body is neither necessary nor desirable. The investor-owned utilities, on the other hand, maintain that uniform regulations should be applied to all power utilities; if some of the municipal utilities appear to be making large returns this may tempt other municipalities to build their own generating plants and/or distribution systems. So far this has not happened, but at least one investor-owned utility views the possibility with apparent apprehension.^{1/}

The Municipal Government Act (Sec. 280) permits any municipal consumer to appeal to the Public Utilities Board if he believes the rates which he is charged do not conform to the municipal rate structure, have been improperly imposed or are discriminatory. The municipality may also, by by-law, bring itself under the jurisdiction of the Utilities Board.^{2/} None has availed itself of this provision.

The adoption of a uniform system of accounts, which we recommend, would facilitate a more accurate determination of the earnings of the municipal utilities and, perhaps, enable

^{1/} Canadian-Northland, Transcript p. 1777

^{2/} Public Utilities Board Act Sec. 102

ratepayers better to appraise the fairness of the rates which they are paying. Those who contend that the municipalities are making excessive profits from their electric utility liken these profits to a hidden sales tax on electricity and imply that electricity should be furnished at "cost". However, if the power utility is operating at a profit, the urban transportation systems are often operating at a loss, and thus are being subsidized.

The Public Utilities Board presently has power of regulation over the rates charged by municipal electric utilities for services provided beyond their corporate limits by virtue of Section 276 of the Municipal Government Act. This jurisdiction is applicable whether or not the municipality has passed a by-law to bring its utilities under the jurisdiction of the Board. This would seem a reasonable safeguard for the consumers of municipal utility services who are located beyond the municipal boundaries since they have no control over the political decisions of the municipal council.

It may be argued that, in order to arbitrate any such dispute initiated by a municipality whose residents are receiving utility services from another municipality, the Board would have to determine a rate base for the municipality supplying the service.^{1/} We do not think this conclusion is warranted.

^{1/} Sec. 276-4 provides that "where there is a dispute between a municipality and any other municipality in connection with the rates, tolls or charges, the dispute may be submitted to the Public Utilities Board for an order upon such terms and conditions as to the Board seem proper." Apparently an individual consumer cannot initiate a dispute under this section. Presumably he could, however, appeal to the Board under Section 280 of the Municipal Government Act.

The number of utility consumers located outside the limits of the municipality which supplies them with electric power are very few. The imposition of the regulatory jurisdiction of the Board upon the latter municipalities would not seem to be justified. The Board should, we think, be able to determine the merits of any such complaint upon the basis of the general level of rates prevailing in this and similar areas without formally establishing a rate base for the municipal utility. The function of the Board in this respect is really that of an arbitrator.

Regulation for the sake of regulation serves no good end. The municipalities have been established for the purpose of providing local government. They furnish services of all kinds to their citizens, on a few of which, such as electricity, they make a profit, on others they may incur losses. If the senior government were to single out the few profitable ones and decree that they should be provided at cost, the financial burden of supplying the unprofitable ones would become more onerous for the municipality.

The municipal electric utilities in Alberta appear to have provided reliable service at prices generally comparable to those charged by the private utilities. Electors, all of whom are power consumers, elect their own council and, in addition, have a limited right of appeal to the Public Utilities Board. It does not appear that the municipalities are abusing their legal monopolistic privilege of supplying and pricing power to their consumers. The investor-owned companies would, quite

understandably, like all power suppliers regulated as to their rates in order to lessen the incentive to their municipal customers to generate, or more commonly, to distribute their own power.

(ii) Service Areas

A second consideration of importance to the municipal utilities is their service areas. Such service areas are currently determined as the area within their municipal boundaries. An exception occurs in annexed areas. Here any special franchise or arrangement in force at the time of annexation is continued with the annexing municipality assuming the contractual rights and obligations of the former municipality.^{1/} Annexations are made under the provisions of the Local Authorities Board Act and this legislation specifically provides, under Section 127, that no annexation order "affects or abrogates any existing contract or existing right" held by any utility company in the annexed area.

This is the legal framework which has led to competition between two utilities within parts of the areas annexed to the City of Edmonton. The Draft Bill of the Power Commission Act would confer upon the Power Commission the authority to prevent such duplication by establishing "designated areas". Section 35-1 of the Draft Bill provides this authority:

^{1/} Municipal Government Act Section 271-4.

"Notwithstanding anything in any other Act or in any special franchise, no electric utility owner shall supply power in any land or area of Alberta without the approval of the Commission."

Similarly Sec. 35-7 of the Draft Act specifies that:

"The Commission shall treat any area specified in an approval given under Section 97 of the Public Utilities Board Act, or its predecessors, as a designated service area of the electric utility owner to whom the approval was granted."

Since permissive orders are granted under Section 97, this section of the Draft Act has the effect of confirming and perpetuating these permissive orders. This proposed legislation, if enacted, could result in a private utility serving indefinitely a designated area within the corporate limits of a municipality.

In our opinion this approach is inconsistent with the spirit of the Municipal Government Act. We believe that a termination date should be fixed for permissive orders in annexed areas; at the date of their expiration the municipality could, with the approval of the Public Utilities Board, either renew them as a franchise or terminate them. The decision as to termination or renewal should rest with the municipality as it does now with respect to a franchise which the municipality has granted or acquired by annexation. It does not seem equitable that a private utility should have perpetual service rights within a municipality by virtue of a permissive order which it had secured to serve an area so sparsely settled that the granting of a franchise was not practicable.

(iii) Generating Capacity

The integration of the power system requires co-ordination of the construction of new generating capacity in addition to the exchange of power within the provincial power grid.

Section 7 of the Power Commission Act requires a "proprietor" to secure the permission of the Commission for construction or alterations. Because of the ambiguity in the definition of "proprietor" there is some doubt as to whether this section applies to a municipal utility. The Draft Bill removes this ambiguity and makes approval for new construction and alterations by the Commission mandatory upon both municipal and private utilities. Notwithstanding the excellent record of voluntary co-operation which has obtained in the past, we think this authority is necessary and should be retained.

Section 81-1-e of the Public Utilities Board Act gives the Board authority to require a utility to construct any "reasonable" extension of its facilities provided such extension is economically feasible. It is intended that this authority should be transferred to the Power Commission. We agree.

(b) Regulation of Investor-Owned Non-Water Power Licensees

This type of electric utility is regulated as to rates by the Public Utilities Board. Section 81-2 requires

the Board to establish a rate base and Section 81-3 provides that, in determining the rate base, due consideration be given to original cost or prudent acquisition cost, less depreciation or amortization, and to necessary working capital. We believe, for reasons which we have outlined in Chapter 2, that this method of determining a rate base is to be preferred.

(c) Regulation of Water Power Licensees

Calgary Power is regulated under the provisions of the Water Resources Act and the Regulations thereto.^{1/} These regulations provide a complete framework of regulation. They are both comprehensive and complex. A part of this complexity stems from the fact that the company was licensed under the Dominion Water Power Act prior to the transfer of natural resources to the provinces and was governed by regulations to this federal legislation. The interpretation of the present regulations appears to be affected by the various federal acts which clarified and amended the transfer agreements. Since the provincial regulations differ somewhat from the Dominion regulations, there may well be differences in legal opinion as to which apply in particular circumstances.^{2/}

The Advisory Committee is concerned with the regulatory framework under which Calgary Power operates in that it constitutes an alternative to the method of regulation employed by the Public Utilities Board which governs the other major util-

^{1/} R.S.A. 1955, Chapter 362 and Provincial Regulation 284/57.

^{2/} See City of Edmonton Submission p. MQ 2(b)-11.

ities in Alberta subject to regulation. The Public Utilities Board Act (Sec. 70-3) is to be applied subject to the Water Resources Act and the Regulations. The present Power Commission Act is also made subject to this Act by Clause 9-3 of the Brazeau River Development Act. The Draft Bill of the Power Commission Act provides (Sec. 17-2) that sections 16 and 17 of the Act, relating to expropriation by the Power Commission, shall be subject to the Water Resources Act. The Water Resources Act thus has a pervasive effect upon electric utility regulation in the province.

The Regulations prescribe a method of valuing the property of a water power licensee for purposes of take-over, water power rentals, depreciation and rates chargeable to consumers.^{1/} We have examined in Chapter 2 the basic method by which utility property is valued under the Regulations and compared the current value method of the Regulations with the original cost method employed by the Public Utilities Board. We have also examined the implications of allowing depreciation on a current value rate base. Our conclusion there was that the use of current value accounting gives preferred treatment to the holders of equity common stock as compared with the bond holders and owners of preferred shares. Neither are we certain that the use of this method might not adversely affect the

^{1/} Calgary Power is concerned with valuation at take-over by reason of its licenses expiring in the year 2000. The Province has the option of renewal or taking over the entire undertaking of the company at that time. The province may also take over the undertaking after Jan. 1, 1980, by payment of a premium. See Brazeau River Development Act, R.S.A. 1960 Ch. 10. and Agreement Article VIII.

interests of power consumers by reason of higher rates.^{1/}

The necessity of establishing a rate base for Calgary Power seems very real. Calgary Power is efficient and has been growing rapidly; its use of larger equipment and technological improvements in power generation have permitted reductions in cost which have offset the ever-increasing price of inputs. The continued impact of inflation upon operating costs and the very large amounts of capital which this company must raise to meet the increased demands upon its system for power, together with the present very high cost of this capital, may soon lead to an application by the company for a rate hearing.

It may be worthwhile, therefore, to review briefly the first attempt which was made to hold a rate hearing for a company regulated under the Water Resources Act and the Regulations.

In August, 1961, a complaint was filed with the Public Utilities Board by the City of Red Deer and the Town of Jasper Place that the rates, tolls and charges of Calgary Power were greater than was just and reasonable. Before opening its investigation the Board prepared and submitted to the interested parties a list of fourteen preliminary questions regarding certain provisions of the Provincial Water Power Regulations.

^{1/} There are many advocates of current dollar accounting. It is a device which is designed to take account of the decreasing value of the dollar due to inflation. If we are to live under conditions of chronic inflation the adoption of this or a similar approach may be necessary. Our objection lies partly in singling out a particular industry, utilities, and applying current dollar accounting while other industries continue to use original cost accounting.

The parties submitted written arguments and, on February 16th, 1965, oral arguments were presented. The Board published its decision on these preliminary matters April 1, 1965.

An appeal was taken to the Appellate Division of the Supreme Court of Alberta and the Appellate Division ruled on December 30, 1965, that the court had jurisdiction to hear arguments and deal with preliminary decisions of the Board as well as with final decisions. On May 9, 1966, the Appellate Division found that the decisions of the Board were in error because of a procedural defect; the several questions where the Board's ruling was in dispute were referred back to the Board for reconsideration.^{1/}

Further, the Court, pointing out that the Board had considered the provincial regulations applicable, outlined possible procedure open to any party that contended the Dominion regulations applied. Its objective in so doing was to "prevent binding answers to some questions being based upon provincial regulations and other final answers being based upon Dominion regulations." The question of which regulations were applicable was referred back to the Board so that such evidence as counsel wished to adduce relevant to this question could be given.

The questions under dispute, to which answers have not yet been provided, and which may be governed by Dominion as well as by Provincial Water Power Regulations are set out below.

^{1/} Report 1966 (66) W.W.R. 725, 732.

"Question 2. In considering the assets included in the rate base what consideration, if any, should be given to work or construction in progress and the construction inventory relative thereto particularly when interest during construction is allowed?"

"Question 6. The fair rate of return is to be cumulative. Having regard to section 33 and section 30(6), (7), and (8), at what point in time is the fair rate of return to be determined?"

"Question 9. If the Board has not fixed the proper and adequate rates of depreciation in accordance with section 35, is the amount of depreciation actually provided in the accounts of the licensee allowable against earnings?"

"Question 10. What is meant by the words 'set aside out of earnings' as used in section 35?"

"Question 11. Has the Board the authority to establish proper and adequate rates of depreciation under section 35 without the Minister having determined the method of allowing for depreciation under section 60(4)?"

"Question 14. Section 1(ff) defining 'taxes on income' became effective December 1, 1957. Prior to this date would income taxes actually paid be a deduction properly allowable?"

This rate hearing has served to underline the complexity of the problems involved. It appears that eight of the fourteen questions had been answered to the satisfaction of both sides, but the six questions set out above are unresolved, as well as the question of whether Provincial or Dominion regulations are applicable. Jasper Place has become part of Edmonton and its power supply taken over by the City. Calgary Power and the City of Red Deer reached a new agreement and there was, therefore, no need to continue with the first hearing under the Water Power Regulations.

One of the questions which is unresolved is whether the real determination of depreciation for rate making purposes is to be made by the Minister under Section 50 as proposed by Calgary Power, or by the Public Utilities Board under Section 35, as contended by the municipalities. Further, counsel questions whether there has ever been an appraisal under Section 59 and states among other matters, that there is no "adjusted cost of property . . . which is a matter of continuous record, nor is there an annual fixation."

It is apparent that there are many unresolved problems and this is to be expected until there has been a rate hearing and the regulations tested in practice.

Notwithstanding past difficulties, it is no doubt possible to revise and update the Regulations so that a rate base might be determined. However, it appears clear that, in the current state of the conflicting provisions, it is impossible to proceed with a hearing expeditiously. There are further appeals possible from the Appellate Division to the Supreme Court of Canada and the large sums of money involved usually justify one, or both sides, proceeding to the final court.

The Advisory Committee is of the opinion that the Water Resources Act and Regulations do not provide a satisfactory method of establishing a rate base for a utility and, consequently, the rates charged to power consumers.

Canadian-Northland is justified in asking that they be regulated upon the same basis as Calgary Power. There are advantages in having a uniform method of regulation applied to all of the investor-owned utilities. In our view the best method available is the one currently in use by the Public Utilities Board.

The method to be used in determining compensation for utility property belonging to a water power licensee and being turned over to a municipal utility at the termination of a franchise is in need of clarification. We do not profess to know whether the provisions in the Regulations, relating to compensation at time of take-over, are applicable to partial take-over at the termination of a franchise, or only to compensation for all of the licensee's property in the event that its license is not renewed.

The method of determining such compensation at termination of a franchise should be spelled out. We favour the formula of reproduction cost new, less depreciation, as currently employed by the Public Utilities Board.

(d) Expropriation

This Committee's terms of reference did not specifically include an examination and appraisal of expropriation procedures. Moreover, landowners, whose interests are most directly affected, were not included among those qualified by the Order-

in-Council to present evidence. Therefore, we have not attempted a detailed appraisal of present expropriation procedures. We have not, however, ignored these procedures since they are included in the various acts which, together, make up the regulatory structure governing electric utilities in this province. A significant change in expropriation procedures is also included in the Draft Bill.

Expropriation procedure as applied to electrical utilities is partly carried out pursuant to the provisions of the Expropriation Procedure Act which is, however, subject to other legislation. The method prescribed varies, depending upon whether the expropriator is the crown, a municipality or a company. In the latter case the method, again, varies in detail only, depending upon whether the company is, or is not, a water power licensee.

(i) Crown Expropriation

The Minister responsible for the construction or maintenance work, for which the property is required, files a plan with the land registry and, if he is unable to reach agreement with the owner as to the "due compensation" payable, advises the owner of his registration of the plan.

The owner must file a claim for compensation within a year of the date of expropriation, or of the date of completion of construction. The Minister must, within three months after receipt of this claim, offer a sum in full settlement. If dis-

satisfied, the owner must so advise the Minister within sixty days.

Either party may notify the other that he wishes compensation determined by arbitration or by the Court. If they cannot agree on settlement by arbitration, it is settled by the Court.

(ii) Expropriation by a Municipality

A municipality desiring to expropriate land, either within or without the municipality, is required by the Municipal Government Act (Sec. 130) first to negotiate with the owner. Failing agreement, it expropriates under the Expropriation Procedure Act.

The requirement under this Act is the filing in the municipal office of a plan of the survey and then notifying the owner of the plan, the amount of compensation offered, and the time at which a by-law for expropriation will first be presented to council. The owner is entitled, prior to enactment of the by-law, to make representation to council as to why the land should not be expropriated.

Prior to passing the by-law authorizing expropriation, council is required to have regard to (a) the recommendation, if any, of its departments or consultants, (b) the objections of an interested party, and (c) the needs and general good of the municipality.

Compensation is determined by the Board upon the application of either party.

(iii) Expropriation by Companies

Private companies must first have the power to expropriate under an authorizing act and have approval or a permit under that act.

Calgary Power, as a water power licensee, obtains its right to enter and survey lands from the Water Resources Act (sec. 84). Section 84-a provides that a water power licensee may, without previous consent therefore, enter into and upon any lands lying in the intended route of its undertaking, for the purpose of making surveys.

The company then applies to the Minister of Agriculture for approval of the intended route. The Minister is required to consider the public interest involved and also any objection of an interested party.^{1/} The route is examined by a member of the Department, and if judged satisfactory, a certificate of approval is given.

Should the company be unable to obtain easements from

1/ Water Resources Act Sec. 84-b-3(a) to (d).

the owners, it may expropriate under the Expropriation Procedure Act.

Canadian-Northland must make application for acquisition of a right-of-way, outside the limits of a city, town or village, to the Minister of Highways under provisions of The Water, Gas, Electric and Telephones Companies Act (Sec. 30-1). Again it does not require any previous consent of the owner to make surveys (Sec. 6).

The Minister, in giving his approval, is required to consider the public interest involved and also any objection of an interested party as under the Water Resources Act.^{1/}

The Committee has some reservations with respect to existing provisions for expropriation:

1. Under both The Water Resources Act and the Water, Gas, Electric and Telephones Companies Act a utility may, without giving prior notice to the landowner, enter upon his property for the purpose of making surveys.
2. The utility owner is not required to demonstrate that public convenience and necessity are such as to require the lands which it is expropriating.
3. The owner is not given the benefit of a hearing prior to expropriation.
4. Payment for expropriated property may be unduly delayed.

An owner's interest can be expropriated by administrative decision and the owner has no recourse save in his right to compensation. The owner is entirely dependent upon

^{1/}The Water, Gas, Electric and Telephones Companies Act Sec. 30-3(a) to (d).

the Minister for his protection. It has been often affirmed that every man who is to be deprived of his liberty or his property has the right to be heard. We think that expropriation should take place only under judicial or quasi-judicial proceedings which afford to the owner the advantage of a public hearing or enquiry. Such a hearing is provided for, after filing of an objection, in legislation on land expropriation recently introduced into the House of Commons.^{1/}

Section 46 of the Draft Bill of the Power Commission Act would require any private utility to secure the approval of the Chairman of the Power Commission, rather than that of the Minister, prior to expropriating under the Expropriation Procedure Act. The Chairman shall not give such permission unless:

- (1) he is satisfied that the "permittee" has attempted and been unable to deal with the landowner, and
- (2) he has considered the objections, if any, of the owner of the interest.

This section represents, in our view, an improvement over the existing legislation. We further recommend:

- (1) That the registered landowner should receive prior notice by registered mail of the permittee's intention to conduct surveys on his land;
- (2) That the landowner should have opportunity to present his objections to expropriation at a public hearing;

^{1/} Bill C136, An Act Respecting the Expropriation of Land, Nov. 3, 1969.

- (3) That the permittee should be required to demonstrate that the particular route or site is required by reason of public convenience and necessity.
- (4) Payment should be made either before, or immediately upon acquisition, of 75 per cent of the proposed amount to be paid by the expropriating permittee. Details as to the determination of the amount of the proposed payment should also be furnished and the balance deposited with the regulatory agency. If a hearing is necessary, costs should be awarded at the discretion of the agency.

(e) Provisions for Appeal

The Draft Bill (Sec. 61) contains the same appeal provisions as are included in the Public Utilities Board Act (Sec. 62-67). Subject to the obtaining of leave to appeal from a judge of the court of appeal, an appeal lies to the Appellate Division of the Supreme Court of Alberta upon a question of jurisdiction or upon a question of law.

The City of Edmonton is of the opinion that the Commission should make broader use of hearings and consultations in arriving at decisions which affect the power utilities, be they municipal or private. Detailed reasons should be given by the Commission for its various decisions, rules, orders and regulations and these should be subject to review, amendment or termination. They also offer a recommendation that the Commission should offer compensation to indemnify any party adversely affected by a decision of the Commission. The City did not elaborate upon the implications of this approach.^{1/}

^{1/} Submission, City of Edmonton, pp. MQ6-1 to MQ6-7.

Neither the private nor municipal utilities raised any specific examples where injustice had arisen because of the lack of more extensive appeal provisions with respect to matters dealt with by the Public Utilities Board. The recommendations made by the City of Edmonton are directed in some measure toward the method in which the Commission should operate rather than in provisions for appeal.

The Public Utilities Board gives detailed reasons for its various decisions, and Section 36(3) of its Act provides that although a matter may be heard by a single member, that member must report his findings to the Board and the Board may thereupon deal with the matter as though it were heard by the (full) Board. Under these circumstances a rehearing before the full Board would unlikely serve any useful purpose.

The practice of the Board has been that important and contentious matters are dealt with by the full Board but in the interest of expediency, interim applications, consent applications and non contentious applications are heard by a single member. The current practice has worked well but the additional obligations of the administration of the new Power Commission Act and the necessity of additional quasi-judicial orders thereunder, may, if specific problems develop, warrant a review of this practice.

Chapter 5

THE SUPPLY OF POWER WITHIN THE CORPORATE LIMITS OF MUNICIPALITIES

The right of a municipality to generate, distribute and price power within its corporate limits, or to grant a franchise to a private company so to do, is a very pertinent issue in assessing the Draft Bill. In our survey of regulatory practice we have noted that Alberta municipalities presently enjoy exclusive rights under the Municipal Government Act so far as the supply of power within their original boundaries is concerned. Where these boundaries have been extended by annexation, and the supply of power in the areas so annexed has been authorized under a franchise or permissive order, the annexation order specifically protects these existing rights.^{1/}

Rapid urban growth in this province has made periodic enlargement of municipal boundaries necessary and this growth, accompanied by further annexation, will continue. Where such annexation occurs, as in the case of the City of Edmonton, two utilities may have the legal right to distribute power within the annexed area. The City of Edmonton has annexed a part of

^{1/} Section 127 of the Local Authorities Board Act, Chap. 46, RSA 1961, provides:

"No order made under this Division affects or abrogates any existing contract or any existing right, of or held by, any company for the production, transmission, delivery or furnishing of water, gas, heat, light or power to or for inhabitants or businesses in the annexed or excluded territories, as the case may be."

the County of Strathcona; the right to supply electric power to this area was conferred upon Calgary Power by two permissive orders granted by the former Municipal District and approved by the Public Utilities Board. As a result of this annexation, both Calgary Power and the City of Edmonton have been distributing power in this annexed area.

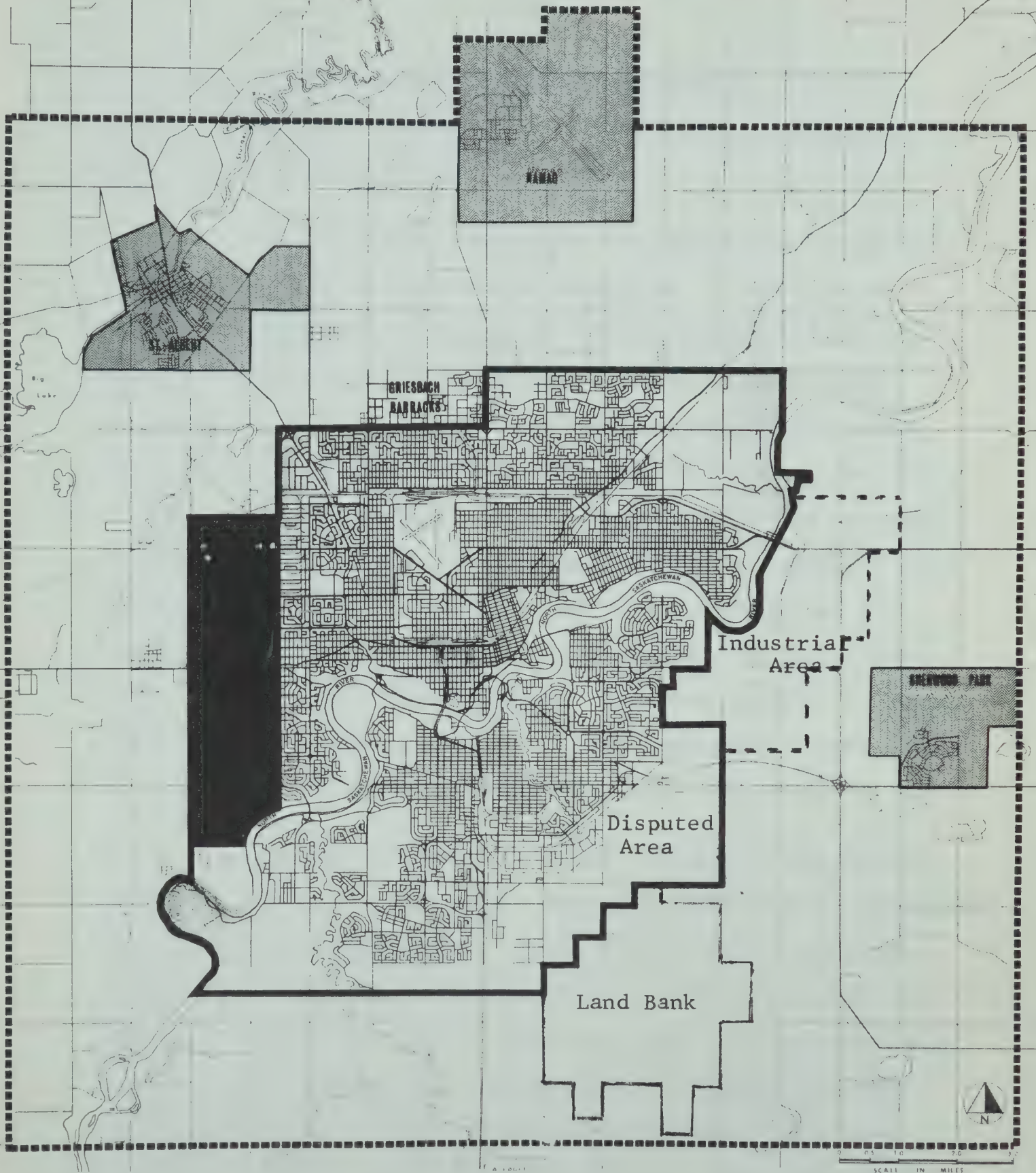
Such direct competition between two power utilities within the same area is wasteful and violates the accepted cardinal principle of utility regulation -- exclusivity of rights within any particular geographic area. Since these permissive orders have no termination date, time will not solve this problem. A decision must be made as to which supplier shall have exclusive rights in such areas.

While the area of "overlap" between the two utilities is at present comparatively small,^{1/} the City of Edmonton wishes to annex a larger area surrounding the city. This addition would enlarge the municipal area to some 300 square miles and would include the important industrial area which lies to the south and east of the city's present boundaries. The present and proposed city boundaries, together with the area served by Edmonton Power, is shown on the accompanying map.^{2/}




^{1/} Calgary Power's estimate of the value of its distribution facilities in the "overlap" area is about \$200,000. Prospectus, Calgary Power Ltd., Nov. 17, 1967, p. 7, filed as Exhibit 42.

^{2/} Provided by the City of Edmonton.

EDMONTON METROPOLITAN AREA



LEGEND

-  AREA SERVED BY EDMONTON POWER
-  ADDITIONAL AREA TO BE SERVED BY EDMONTON POWER AFTER JANUARY 1969
-  EDMONTON POWER CUSTOMERS SERVED BY EXTENDED FEEDERS OUTSIDE OF MAIN SERVICE AREA

-  EDMONTON CORPORATE LIMITS
-  RECOMMENDED EDMONTON METROPOLITAN AREA



The annexed area in which duplication of service occurs is that area in the south-eastern part of the City in which the three green dots are shown.

In 1967 Calgary Power was supplying some 107 MW of power within the 300 square mile area prior to the City of Edmonton taking over the power supply and distribution in Jasper Place which amounted to some 25 MW.^{1/} The transfer of service rights in Jasper Place left the company with some 82 MW of demand in metropolitan Edmonton which was 10 per cent of the company's net peak load and 25 per cent of the net peak load for Edmonton Power. On an energy basis the company's load in the same area was 344 million KWH or 9.4 per cent of its total output. This load was about 23 per cent of that of the City of Edmonton for the same year. The load supplied by Calgary Power in the Edmonton metropolitan area represents roughly, then, the equivalent of Calgary Power's growth for one year.

The municipalities have been created by the Government of the Province and, hence, have been described as "creatures" of the provincial government. True, they have no formal constitutional status apart from provincial legislation which the Province has power to vary or rescind. They are, however, very substantial creatures; the Edmonton census metropolitan area has a population in excess of 400,000 and Calgary more than 330,000 -- each of them having from three to four times the

^{1/} These data were supplied by Calgary Power, Transcript, p.353

population of Canada's smallest province.

Dr. E. J. Hanson points out that these two cities account for more than half of the population of Alberta and that most of the population growth of the province has occurred, and will continue to occur, in these areas.

"Currently only about one-quarter of the population of Alberta lives in rural counties, municipal districts, improvement districts and special areas." 1/

The Committee concurs with Dr. Hanson's projection of continued growth of the urban areas as industrialization and farm consolidation proceeds. The Province has recently purchased some 9½ sections of land in the Edmonton metropolitan area but beyond the present city boundary. The purpose of this acquisition is to make land for urban development available to the City. This area is labelled "Land Bank" on the map.

Responsibility for local self-government has been delegated by the provincial government to the municipalities. The municipalities provide all local services such as police and fire protection, construction and maintenance of streets, provision of primary and secondary education and hospital services. The province bears varying parts of the cost of maintaining these services through unconditional grants made directly to the municipalities, or by means of payments tied to the provision of educational and health services.

1/ City of Edmonton Submission to the Advisory Committee p. I-3.

The municipalities provide other utility services such as transportation, water and sewage. The furnishing of electric power is not essentially different except that this service is also provided on a province-wide basis by privately owned utilities.

Overlapping of service areas as between municipalities and private suppliers has arisen only in the City of Edmonton. No such problem seems imminent with respect to any other municipality. Calgary, Red Deer and some eight other towns and villages purchase all of their power wholesale from Calgary Power and distribute it within their municipal limits through their own distribution system.

The City of Calgary has avoided this problem. In 1948 the City secured a designated service area surrounding and beyond its municipal boundaries. Calgary Power and the City of Calgary have negotiated extensions and have co-operated in serving isolated customers in each other's territory. Calgary has enjoyed a greater degree of success than Edmonton in obtaining an enlargement of its municipal boundaries. These now include practically all of the residential and industrial areas adjacent to the city.

The area of the City of Calgary is about 156 square miles as compared with 86 square miles within the Edmonton corporate boundaries.^{1/} The designated service area for electrical

^{1/} Hanson, E. J., The Potential Unification of the Edmonton Metropolitan Area, March 1968. p. 3

distribution in Calgary extends from $1\frac{1}{2}$ to 4 miles beyond municipal boundaries although Calgary Power continues to serve a few customers within these boundaries, including a major industrial plant within the city boundary.^{1/} The city supplies all of its customers, within or without the city limits, at the same "postage stamp" rate.

The City of Red Deer submits that an urban municipality which is operating a power distribution system should be permitted, but not obligated, to supply electricity to those adjacent areas beyond its limits which "may reasonably be expected to be urbanized and incorporated within the next 20 to 30 years."^{2/}

Medicine Hat generates and distributes its own power and, through a co-operative arrangement, has been selling energy to Calgary Power. Lethbridge also generates and distributes and has been purchasing additional supplies from Calgary Power. The rest of the cities, towns and villages have granted franchises to the private companies with respect to either supply, distribution, or both. One hamlet, Sherwood Park, is being served under a franchise negotiated by the County of Strathcona in which it is located.

Even though a conflict has arisen only in the City of Edmonton, the other four cities which made representation

^{1/} Exhibit 19

^{2/} Submission, City of Red Deer, p. 13

to the Committee are jealous of their municipal rights in so far as the provision of electric service is concerned. They are unanimous in support of their present privilege to grant a franchise to a private supplier to distribute power, if they choose, or to generate and distribute their own electric energy should they, at such time as their franchises expire, wish so to do.

The electric utility has proved a profitable one for the municipalities who both generate and distribute power, as well as for those who distribute only. Edmonton Power, for example, shows, for 1967, a return of some 13.4 per cent on its net investment of \$49 million after the payment of a 5 per cent tax on gross revenue together with franchise and real estate taxes to the city. Some \$7 million were thus made available from taxes and net operating income of the utility and were used to pay bond interest, to finance expansion of the system and for general municipal purposes.^{1/} The City of Edmonton advised the Committee that the return from its electric utility, after the payment of taxes by the utility, "relieves the property tax by approximately 10%.^{2/}

The City of Calgary shows a comparable return of some \$3.4 million or 12.3 per cent from its electric distribution utility for 1967.^{3/} The City of Red Deer states that the surplus

^{1/} Submission, City of Edmonton, Schedules A-1 and A-3.

^{2/} Submission, City of Edmonton, p. F7.

^{3/} Exhibit 36 and Transcript p. 436.

accruing to the municipality from distributing power is more than one half of its receipts from property taxation apart from the school and hospital levy.^{1/} Medicine Hat's power generation and distribution "surplus" was about one quarter of the yield of real property taxes. This surplus includes some, but not all, of the return on investment since debt charges are included as an expense.^{2/}

We have included a general rate comparison at the end of Chapter 1 and noted that Edmonton Power's rates compare favourably with those of other electric utilities in the Province and suggested that a concentrated market and a relatively cheap supply of fuel may make this possible.

The Advisory Committee is of the opinion that its recommendation as to who should provide power in areas annexed to a municipality should not be determined solely upon the basis of the relative efficiency of the utilities involved. This does not mean that the regulating authority should be unmindful of such relative efficiencies and, to this end, we believe that a uniform system of accounting for all electric utilities should be instituted in order that more meaningful comparisons can be made. However, even with uniform accounting practices, it will not be easy to judge the relative efficiency of a particular electric utility. Their cost structures differ widely because of differences in scale of output, length of

^{1/} Transcript p. 356

^{2/} Transcript p. 389 The allocation for depreciation is determined as 10 per cent of gross profit. Transcript p. 397.

transmission lines and type of fuel used. Similarly their rate structures will differ depending upon cost of service which, in turn, depends upon the location, density and load factors of consumer demand.

The City of Edmonton outlined to the Committee the present and prospective dimensions of the financial needs of the municipalities. There can be no doubt that the urban municipalities are experiencing great difficulty in providing the necessary capital facilities and services demanded by their rapidly growing populations. The chief source of revenue available to the municipalities is the property tax. This tax, by reason of its yield inelasticity with respect to taxpayers' income and by its regressivity, has severe limitations.^{1/} Revenues from power utilities have provided a welcome source of funds to harassed urban governments.

The municipalities argue that while the power utility makes a contribution of this magnitude to the support of municipal services, it is clearly inequitable, if a part of the utility within a municipality is owned by a private utility and the latter's customers, although enjoying the general services provided by the city, do not contribute to the same extent as other urban citizens to the support of these services.

^{1/} A regressive tax is defined as one which absorbs a higher percentage of a lower gross income accruing to a consumer than it does of a higher income. The reverse is true of the personal income tax which is progressive.

The private power companies, on the other hand, contend that these citizens do not use the electric utility capital assets of the city. Further if the companies lose a part of their highly concentrated urban market with its high load factor, their rates in the remainder of their service area must necessarily be increased. This is quite possible but are we justified in denying the municipalities the right^{to}/serve their own citizens with power in order to maintain lower rates beyond the urban boundaries?

The high growth rate of the power industry in Alberta has enabled it to take advantage of returns to scale which tend to offset higher costs resulting from inflationary price increases for almost all inputs. However, with continuing inflation, particularly in the rate of interest necessary to attract new capital, we would expect that power rates, too, must be increased and indeed such an increase has, since the conclusion of our hearings, been granted to Canadian-Northland by the Public Utilities Board.

Counsel appearing for the City of Red Deer, in reply to a question from Mr. Major, summarized the position of the municipalities rather well:

"Mr. Major: Mr. Beames, before you retire, there are questions that I would like to put to you, and I will be putting similar questions to the City of Calgary and the City of Lethbridge, and that is this: What is the position of the City of Red Deer with respect to the Strathcona area? We have heard that the City of Edmonton wishes to expropriate a large area, or a large power load from Calgary Power. Now, the incremental cost of supplying this load to Calgary Power is smaller than the revenue they get from this area, and if this

area is taken over by the City of Calgary -- or at least by the City of Edmonton -- it will undoubtedly affect the rates charged to the cities of Red Deer and the City of Calgary, and other people on the Calgary Power system.

"Mr. Beames: Sir, the City of Red Deer has considered this matter and you will remember that one of the positions of the City of Red Deer is that a municipality must have the right to serve within its boundaries as they may exist from time to time. Accordingly the City of Red Deer takes the position that in the event that the City of Edmonton boundaries are extended to include this area, that the City of Edmonton must have the right to take over that load. However, the City of Red Deer's main interest is in the manner in which the load would be taken over, and here I think that our written submission contains suggestions as to a phase-out period which is generally related to the size of the load taken over and the load increments of the company on an annual basis. So that really we, we agree with the proposition put forward by the City of Edmonton in this context, but our reservation is that there must be a sufficient period of time, phase-out, or a sufficient period of time during which Edmonton would continue to purchase power from Calgary Power so that the result of the take-over will not result in an increase in rates to the remaining customers on the system. I realize that Calgary Power says that this is a load that really will never be made up, it is irretrievably lost. Be that as it may, I think our concern, while agreeing to the right of the municipality as a principle is to taking such steps as can be reasonably taken to minimize the impact on any remaining consumers." 1/

A further argument for exclusive municipal supply of power within the municipal corporate boundaries was presented by the City of Edmonton. The City argues that municipal ownership of utilities greatly facilitates co-ordinated planning and development of the city's growth. While we agree that municipal ownership of utilities might make such planning and development somewhat easier, the cities

have demonstrated that co-operation with other utilities is quite feasible. The supply of natural gas and telephone service are good examples. The important consideration from the point of view of municipal planning is control rather than ownership of the utilities, and this point the City of Edmonton concedes.^{1/}

The relevant merit of assigning the right to provide utility service in annexed areas as between the original supplier and the municipality can be, and has been, debated at great length. The decisive criterion, in our opinion, is to be found in the autonomy of the municipal governments and their right to furnish utility services to their citizens. True, the municipalities have no formal constitution or constitutional guarantees from the province, apart from the various legislative enactments of the provincial legislature. None the less, they have been entrusted with the management of their own affairs and have long enjoyed the right to provide utility services to their citizens.

In principle there is no difference between supplying water, sewage or transportation services than in supplying electric power. If the municipalities are to continue to enjoy the right to manage their own affairs, and if it is accepted that, to operate efficiently, a power utility must have exclusive rights in any given area, provision must be made to permit the municipalities eventually either to purchase the

facilities of a private power company operating within a part of their corporate limits, or to grant a franchise to such company. The choice must be left to the municipality which, in turn, under existing legislation, must have the approval of the Public Utilities Board.

If one is prepared to concede the point that the municipalities should have the right to manage their own affairs, then it is up to their ratepayers to judge whether or not electric utility rates, or any other utility rates, are excessive and to take action through protest to their council or at the polls. If the municipalities choose to raise a part of their revenues by way of return on utilities rather than by property taxes, this would seem to be their prerogative. None the less, we think standardized accounting procedures should be adopted. The availability of comparable accounts permits a comparison of the revenues from the operation of any particular utility with those of others and makes rate comparisons more meaningful.

The City of Lethbridge summed up the position of the municipalities very succinctly:

"We would repeat that the City of Lethbridge agrees with the other cities who have been represented before you in their stand that the regulatory powers proposed by the Power Commission should not be applied to municipalities. This position is supported not just by the cities that had appeared before you, but by the Alberta Urban Municipalities Association which represents 277 cities, towns and villages in which 74% of the population of Alberta reside. This resolution adopt-

ing this stand appears at page F 2 of the City of Edmonton's submission. I point this out to show that the municipalities throughout the province, not just the ones that are represented here, are concerned with the principle involved, and that is a matter of concern to all municipalities and this is not simply a private battle over certain consumers on the outskirts of the City of Edmonton, as sometimes one might have been led to believe during the course of the hearing.

"It has been suggested that it is not reasonable that some utility operators should be subject to regulations and others not. We would suggest that the subjection of any industry to regulation should only be done when there is need for control clearly shown. Historically regulatory boards and commissions were created to prevent the misuse or abuse of powers in monopoly situations. Public interest requires that the privately owned utility be restricted to reasonable earnings and that costly duplication of services and other abuses be restrained. When the utility is owned by the public which it serves, that same public derives a benefit of the profit, sir. The justification for such regulations, it appears to me from a philosophical point of view, does not exist. Mr. Macaulay yesterday set forth eight reasons for his view that the municipal utilities were already subject to more effective and democratic control of their rates and their policies than would appear even if a regulatory body were given supervisory powers. With this we agree and we submit that in this situation we appear to be faced with regulations simply for the sake of regulations. Whenever legislation is advanced to create a regulatory body, one must ask what philosophy underlies the proposal, or what abuse the regulatory power is intended to remedy. Generally the abuse or the fear of abuse is clearly evident. We submit, however, that in all the submissions made before this Committee, there's no evidence of abuses by the municipalities of their present powers, nor has the case been made for the need to restrict the rate making powers of the municipalities.

"The rates charged by the municipal system appear reasonable, equitable and compare favourably with those of private utilities. Admittedly the rate of return as computed by the municipal systems appears to be high compared to that normally allowed to regulated public utility companies; but again we repeat that the benefit accrues to the very consumers within the municipality, and that this rate of return should

not be a matter of concern to the private utility companies. In addition, we submit that we should not forget and keep before us that a municipality, unlike the private utility, does not consider its electric policy as an isolated business. Power is only one of the many services which it provides. The citizens of the municipality are concerned that the total cost to them of the total services which they receive, not just power, all services, water, sewer, streets, and the financing of such total services is the problem of local government.

"This problem is an important one, we request that no further restrictions be placed on the sources of revenue of the municipalities or on the ability of the municipalities to distribute the burden of these costs in the manner most acceptable to the citizens who are being served. The City of Lethbridge most strongly requests that this Committee recognize that the continuation of the historic rights to autonomy in utility matters within the municipal boundaries is in the best interest of the public. We submit that municipalities should continue to be exempted from the application of the regulatory powers contained in the draft bill subject to those exceptions which are referred to in the submission of the City of Edmonton." 1/

Calgary Power, on the other hand, contends "that there should be no regulatory distinction between municipally-owned utilities and investor-owned utilities."2/ The Company cites the regulation of the provincially owned Alberta Government Telephones as a parallel. Canadian-Northland advances the same argument.3/

A provision has also been included in the Municipal Government Act designed to afford further protection to the consumer. Section 280 provides that "any user of a public

1/ Transcript p. 1888-1891

2/ Transcript p. 1722

3/ Canadian-Northland, Submission to Advisory Committee, p.21

utility being aggrieved respecting service charges, rates and tolls" may appeal to the Public Utilities Board and this Board may, if it finds that such charges do not conform to the rate structure, have been improperly imposed or are discriminatory, may vary or disallow such charges.^{1/}

The privately owned utilities argue that municipal power rates and depreciation practices should be regulated since the individual citizen cannot know whether or not the rates which he is being charged are fair or not.^{2/} Canadian-Northland argued that "the interest of the consumer is paramount" and that it isn't right to tax the municipal electric consumer indirectly in this way and it creates an unfairness throughout the province . . . it is unheard of of a privately owned utility enjoying a return of 13%.^{3/}

Calgary Power did not, apparently, concur in this matter of the City of Edmonton making excessive profits from its electric utility:

"Even, however, if we examine into the situation which would exist if they (City of Edmonton) chose to dispose of it (the power utility), it is evident that the so-called profits which they are computing, without taking into account the cost of money employed in earning these profits, are largely a figment of the imagination. ^{4/}

The objection which Canadian-Northland takes to the apparently large net earnings which some municipalities make

^{1/} Calgary Power also suggests some amendments to this section which would make it more effective. Transcript p. 1728

^{2/} Transcript p. 1729

^{3/} Transcript p. 1773

^{4/} Transcript p. 1670

from their electric utility is that these earnings tend to encourage municipalities to terminate their franchises and to buy out the distribution systems of the private utilities.^{1/} So far, this has not happened as Canadian-Northland does not supply electric power wholesale to any of its municipal customers, but itself distributes within their corporate limits.

The municipalities are generally in agreement with the regulation of the municipal utilities in three areas:

- (a) The use of uniform accounting systems.
- (b) Rate regulation for power supplied by a municipality beyond its corporate limits.
- (c) Regulation to achieve optimum physical integration of the power system which would include regulation of timing of construction of new generating capacity.

The Advisory Committee concurs with the desirability of regulating municipal utilities in these three areas but would permit the municipalities to continue to retain their present autonomy in establishing rates, with retention of the right of appeal to the Public Utilities Board by a consumer, or another municipality, as presently provided for under sections 280 and 276 of the Municipal Government Act.

The investor-owned companies maintain that it is patently unfair to deprive them of service areas which they have developed and are serving efficiently and to award these

^{1/} Transcript p. 1777

areas to another utility. Calgary Power, in the late 1940's, secured permissive orders from the Municipal District of Strathcona to serve farm customers in what is now a part of the City of Edmonton or its metropolitan area. No one at the time could foresee the explosive growth of the city, and hence the inconsistency between permissive orders with no termination date, and that provision of the City Act which gave to cities the right to supply utilities to the citizens within their corporate limits. The provisions of the Local Authorities Board Act permit annexation without resolving this conflict in utility jurisdiction.

The Advisory Committee has weighed the claims of both parties and has come to the conclusion that the municipalities should have a preferred right to supply electric utility services within their corporate limits, or to grant franchises for such supply, at their discretion. The overriding consideration, in our opinion, is the preservation of the autonomy of the municipal governments.

We will propose that the municipalities with divided power jurisdiction in annexed areas, and Edmonton is the only one, should be given an opportunity either to purchase the distribution facilities of Calgary Power in those areas, or to negotiate a franchise with the company. This should be done by placing a termination date on existing permissive orders.

In those areas which are likely to be annexed to a

municipality within a reasonable period of time, we recommend that the municipality should have an opportunity to apply to the regulatory agency to have a life term imposed upon permissive orders in such areas. Once the area has been annexed and the permissive order has expired the municipality may, in effect, renew a franchise for a ten year period or itself provide for the supply of power in the annexed area.

The life term placed upon the permissive order should be long enough to permit of an orderly adjustment from one supplier to the other, and yet not so long as to inhibit the extension of electric service during the period, or to aggravate the difficulties of eventual transfer as a result of growth of the load and required capital facilities.

Chapter 6

CONCLUSIONS AND RECOMMENDATIONS

The Advisory Committee, as set forth in the Preface to this report, interprets its mission as one of developing practical recommendations for rationalizing the regulatory structure under which electric utilities in this province are operating. To this end we submit the following recommendations:

(a) Regulation of Municipal Utilities

The municipalities should, generally, be left free to exercise the rights now accorded to them by the Municipal Government Act to generate, distribute and price power within their corporate limits, or to negotiate a franchise with a utility for the supply of power.

There are four areas in which we think regulation of municipal utilities is warranted. These are:

- (i) The use of a uniform accounting system
- (ii) The regulation of rates for power supplied by a municipality beyond its corporate limits
- (iii) Regulation by permit of the construction of new generating facilities
- (iv) Interconnection of "works" and exchange of power with other utilities which along with (iii) would permit optimum physical and economic integration of the power system.

If the two regulatory agencies are to be kept separate, the Public Utilities Board would seem best adapted to perform the first two of these regulatory functions; the Power Commission the second two. The Public Utilities Board is already empowered by Sec. 80-c of its Act to require utility owners to keep uniform accounts and to prescribe such a system of uniform accounting by regulation. No such regulations have ever been proclaimed. One of the barriers may have been the difficulty of establishing uniform accounting practices for utilities having such disparate rules of regulation as the water power and non-water power licensees. In setting up a uniform system of accounts, every effort should be made to coordinate the system as between the Power Commission and the Public Utilities Board and among provinces, the Dominion Bureau of Statistics and the National Energy Board. The Federal Power Commission in the United States has developed such accounts; an examination of their system and experience might prove helpful.

(b) Service in Areas Now Annexed to a Municipality

It is essential that only one electric utility be permitted to serve any given area. At the moment, two electric utilities are offering service in a part of the City of Edmonton which has been annexed. Calgary Power is distributing electricity by reason of holding a permissive order; the City of Edmonton by virtue of the area being within its corporate limits. In parts of this area two competing distribution lines parallel each other

on opposite sides of the same street.

This competition, as we have stressed, is wasteful in that it leads to duplication of distribution facilities; it is also undesirable in that it tends to promote tension and ill will between the two suppliers. It should be eliminated as soon as possible.

In this annexed area Calgary Power's distribution facilities are worth approximately \$200,000.^{1/} Although no evidence was submitted on this point, we have estimated that Calgary Power's load is in the order of 10 MW, as compared with 27 MW in Jasper Place at the time the City purchased Calgary Power's facilities there. There are several large industrial consumers in this annexed area.

In order to achieve territorial integrity for one supplier in the whole of this annexed area, we recommend:

- (i) That a life-term of one year be placed upon the permissive order, or orders, presently held by Calgary Power in this area
- (ii) The City of Edmonton be permitted either to grant, effective at the end of this period, an exclusive franchise to Calgary Power for a period of ten years, or
- (iii) That the City negotiate with Calgary Power for the purchase of the Company's distribution facilities within the area and, failing agreement as to price, that the Public Utilities Board establish such a price.

^{1/} Exhibit 42, p. 7

(c) Service in Areas Likely to be Annexed

The City of Edmonton has presented to this Committee a projection of the population of the metropolitan area and the probable location of residential and industrial development to the year 2000.^{1/} The City submits that the boundaries of the urban political unit should coincide, at least approximately, with the boundaries of the social and economic community. To this end, it contends, the corporate limits of the city should be expanded to coincide with the probable limits of the metropolitan area. These projected municipal boundaries would include some 300 square miles as compared with about 86 square miles within the present corporate limits. These projected limits are shown as a dotted line on the map included in this report on page 128.

The City believes that there should be co-ordinated provision of municipal services within this area, including such utilities as transit, water, sewage, and electric power. There may be considerable advantages to be gained from enlarging the city boundaries somewhat in advance of development. Such expansion would facilitate the provision of services and permit the development of one urban government rather than a loose federation of local governments such as has developed in some other metropolitan areas of Canada. Such federations of established local governments have facilitated the provision

^{1/} Submission, City of Edmonton, Plate 1

of co-ordinated municipal services; they appear a second choice to one local government where that option is still available.

Water and sewage utilities in the area between the present corporate limits and the proposed metropolitan boundaries are partially provided, at present, by the City of Edmonton. The Town of St. Albert, the hamlet of Sherwood Park^{1/} and the federal airport at Namao are supplied with water;^{2/} a sewage line connects Sherwood Park with the City's treatment plant at Gold Bar and the City proposes to install a sewage line to St. Albert.

Electric power throughout the area is supplied by Calgary Power. The company holds a franchise with the Town of St. Albert and with the County of Strathcona to supply Sherwood Park. The company supplies the Namao airport by virtue of an agreement negotiated with the City in 1961,^{3/} and the remainder of the area by authority of permissive orders. There is no duplication of electric facilities within this area as the City does not supply any power beyond its present corporate boundaries.

The Committee does not have exact data on the present power load within the area between the existing city limits and

^{1/} This hamlet has a population of approximately 10,000

^{2/} The County of Strathcona buys water for Sherwood Park from the City of Edmonton and transports it through its own main to its reservoir. It is distributed through a distribution system in the hamlet built by developers but owned by the County. Calgary Power operates this distribution system under a contract with the County. Calgary Power also owns a section of main connecting the County's reservoir with the distribution system.

^{3/} Exhibit 8, Fringe Area Exchange Agreement

the limits of the 300 square mile "metropolitan" area. Calgary Power advised the Committee that in 1967 the load in this fringe area was 107 MW, including 25 MW in Jasper Place.^{1/} The completed transfer of power supply for Jasper Place to the City would leave the company with a load of 82 MW.

We have estimated the power load within the "disputed" area at 10 MW which would place the company's load between the present city limits and the metropolitan boundary, excluding St. Albert, at about 72 MW. We estimate the load in Sherwood Park to be about 7 MW, leaving the load in the fringe area, exclusive of the franchise areas of both St. Albert and Sherwood Park, at about 65 MW.

A large part of the above load, possibly some 90 per cent, or 58 MW, is concentrated in the relatively small industrial area which lies adjacent to the present boundary of the city to the southeast. The load in the fringe area, exclusive of the industrial section, St. Albert and Sherwood Park, would then be some 7 MW. We expect, however, that this load will grow fairly rapidly with the growth of the city.

We have two recommendations with respect to the supply of power within this fringe area:

- (1) A life-term of 20 years should be placed upon the permissive order or orders applicable in the industrial area which is tentatively outlined on the map on page 128 of this report.
- (2) The City of Edmonton should be permitted to apply to the Power Commission for service

^{1/} Transcript p. 353

areas, beyond its present corporate boundary, but within the 300 square mile limit, exclusive of the defined industrial area. Service rights in those areas which the City is able to serve and which are likely to be annexed within a reasonable period of time should be allocated to the City. In this way the transfer of service rights can be effected prior to annexation and the power utility more easily integrated with that of the City.

Although we have outlined the "industrial" area on the accompanying map, such an outline should be considered as tentative rather than definitive. We have not, of course, heard representations from the interested parties as to where the exact boundary lines should be drawn. We have, rather, attempted only to include the areas in which the major industrial plants are located.

Should our recommendation be accepted, we suggest that the limits be determined by the Power Commission after the interested parties have been permitted to make representations at a public hearing.

The Town of St. Albert and the hamlet of Sherwood Park, both within the metropolitan area, and presently covered by franchise agreements would remain with Calgary Power until such time as these areas are annexed to the City and the franchises expire. The City would then be able to exercise its option of renewing the franchises, or of itself supplying them with power.

The mechanics of effecting the transfer of service

areas recommended in (2) above are important to both parties. Sufficient time is required to permit of an orderly transfer with a minimum of dislocation being caused to either party, and the physical facilities involved must be priced.

We recommend that a life-term of three years be placed upon the permissive orders held by Calgary Power in those areas, applied for by, and allocated to the City and, upon the expiration of these permissive orders, the right to provide electric service within the area be assigned to the City of Edmonton. In approving such applications we would anticipate that the Power Commission would exercise a discretionary authority in approving applications for areas which form a more or less homogeneous unit and can be transferred without causing undue hardship to Calgary Power to serve the remainder. The City should not be permitted to pick up the more profitable parts of the fringe service area while leaving the rest to the private supplier.

If the two parties are unable to agree upon a price for the company's distribution facilities, such a price should be determined by the Public Utilities Board.

The implementation of our recommendation may result in the City supplying power beyond its present corporate limits. Until such time as this service area is annexed, we believe that the rate structure, service obligations and the construction of new distributing facilities, should be subject to regulation

similar to that provided for in present legislation.^{1/}

Calgary Power presently has transmission lines through this fringe area which supply power to the industrial area, and also to areas beyond the metropolitan limits. The transfer of service rights in the metropolitan area should not be permitted unduly to affect the rights of the company to maintain these transmission lines. Subsequent to annexation we think that the company's rights should be protected and we, therefore, suggest that the approval of the Power Commission be required for substantive changes in the structure or route of these lines.

The load in the metropolitan fringe area is, at present, comparatively small but is likely to develop fairly rapidly. The area itself is, or will become, an integral part of the City of Edmonton which will supply other municipal and utility services. We conclude, therefore, that transfer of the electric service area to the city will facilitate provision of all municipal services upon annexation and that this transfer will cause less dislocation now than after further development has taken place. The loss of the modest load in the "disputed area" and in the fringe area should not have a significant impact upon Calgary Power's operation. True, it will diminish somewhat the company's rate of expansion in future years but with a rate of growth which, in 1969, exceeded 14 per cent such a reduction should not prove burdensome. It is to the advantage of the province

^{1/} Municipal Government Act Sec. 276

that both utilities have room and opportunity to expand.

Moreover, annexation proceedings may be facilitated if the question of power supply has been determined. Annexation may occur in piecemeal fashion and it may prove more economical to define this electric service area and proceed with the transfer and longer range plan prior to annexation, as we recommend, rather than after.

We assume that the industrial area will eventually be annexed to the city since it is a part of the economic and social community of greater Edmonton. At such time as it is annexed the terms of annexation should be such as to exclude the City from the provision of electric service within the area during the life-term of the existing permissive orders to which a termination date has been fixed. Failing such provision, and subject to judicial interpretation of permissive orders, a duplication of service rights could again occur with all the undesirable characteristics attendant upon such duplication. The imposition of a life-term upon a permissive order should, in effect, convert it to a franchise and the same provisions for renewal or compensation on termination should apply as well as the exclusion of any other supplier.

We have recommended the imposition of a life-term of 20 years on the permissive orders in the industrial area for several reasons:

- (1) The company has built up substantial capital facilities in the area and is providing satisfactory service.
- (2) The load in this area is a significant one. Time for adjustment is required both by the company losing this load and for the City assuming it, should it choose to do so.
- (3) We have not recommended that the service of this area be left indefinitely with Calgary Power since the area would likely become an island, so far as power supply is concerned, in the midst of the City. Such a development might well prove an obstacle to the City in providing power to the area beyond. This may well prove true, to greater or lesser degree, during the intervening 20 year period.
- (4) This arrangement will provide the City with an opportunity eventually to achieve the territorial integrity which it seeks.

We have no illusions that this recommendation represents a perfect solution; indeed we doubt if there is a perfect solution. We think, however, that it does represent a compromise with which both parties can live.

The Committee is impressed with the arrangement which the City of Calgary has been able to make in securing a designated electric service area beyond the city boundaries. No serious problems appear to have arisen in co-ordinating power supply either within or without the city. Two factors seem responsible. As early as 1923 the City operated rural lines beyond its boundaries and in 1948 applied for, and received, a designated outside service area.

Secondly, subsequent agreements with Calgary Power have resulted in the extension of the City's service area. While most of the customers within the designated area are served by the City, a few are still served by the company as a result of the latter being able to serve them more conveniently and cheaply. Conversely, the City serves a few customers within Calgary Power's adjacent permissive area. This is done by letter of agreement and these are revocable at any time either supplier wishes to reclaim a customer located within its own area.

The fact that the City is the major customer of the company may have fostered this co-operative arrangement. None the less, it is indicative of the value of a viable accommodation negotiated freely between the interested parties.

While there was no evidence presented to the Committee of any serious "overlap" in the provision of electric services in urban metropolitan areas, other than Edmonton, the City of Red Deer foresees the possibility of such an occurrence in their area. The City of Red Deer makes the following recommendation:

"As areas served by another utility are annexed to a municipality, the municipality should have the right, at any time thereafter, to acquire the system within the areas annexed, upon paying to the other utility the "value" thereof, which would reflect any loss of future earnings if the order under which such other utility is supplying can reasonably be said to be unexpired." 1/

1/ Submission, City of Red Deer, p. 16

We concur and recommend that, upon the future annexation of any area in which power is supplied by virtue of a permissive order, other than in the industrial area adjacent to the City of Edmonton where we have made a specific recommendation, a life term of three years be placed upon the existing permissive order.

Red Deer also proposes that a municipal utility

"should have the right, but not the obligation, to serve areas beyond its corporate limits not being served, if such areas can reasonably be expected to form part of the municipality within 20 to 30 years." 1/

The purpose of this extension of municipal service is so to organize the electric distribution system that it can easily be integrated with the urban municipal system upon annexation. This recommendation by the City of Red Deer is consistent with the Committee's recommendation in metropolitan Edmonton except that, we think, if an urban municipality requests the right to serve a likely-to-be-annexed area, it should also assume the obligation of serving such an area. The City of Red Deer has indicated that, through the authority of the Red Deer Regional Planning Commission, urbanization around the perimeter of the City is prohibited and that where the City is prepared to extend "urban services" the County does not oppose annexation.^{2/}

If urbanization in peripheral areas is restrained pending annexation it would appear that if the City were per-

1/ Ibid. p. 16

2/ Ibid. p. 13

mitted to make application to the Power Commission for the right to provide electric service in such areas, that a life-term of three years placed upon permissive orders in such areas, would facilitate the transfer of the electric utility to the municipality upon annexation.

We accordingly recommend that the urban municipalities should have the right to apply to the Power Commission to impose a limited life-term upon existing permissive orders in the likely-to-be-annexed areas, upon the expiration of which, the right to provide electric service would be transferred to the applicant municipality. Such a provision would ease the transfer of the power utility to the annexing municipality.

(d) Compensation Upon Partial Take-Over

We have recommended the transfer of electric service in areas which have already been annexed, or are likely to be annexed, to a municipality within a reasonable time period. If the two parties involved in the transfer are unable to agree upon a price for the distribution facilities involved, such a price should be determined by the Public Utilities Board.

The Board has established a precedent in determining compensation for properties taken over at the expiration of a franchise. This was determined under the franchise in question and existing legislation as reproduction cost new less depreciation with no allowance for severance damages.^{1/}

^{1/} See above Chapter 2, p.48

This ruling does not appear applicable where take-over results from the imposition of an arbitrary life-term upon a permissive order. Two cases may be distinguished here:

- (a) Where the life-term placed upon the permissive order is less than the renewal term for a franchise - i.e. ten years.
- (b) Where the life-term is ten years or more.

Reasonable compensation in the first case should include, in addition to reproduction cost new less depreciation, some allowance for severance damages. Such allowance for severance damages should not be interpreted as the full capitalized value of the loss of all future earnings to the company resulting from the transfer of this service area. If this allowance for severance damages were to include all loss of anticipated earnings resulting from the growth of this market, such damages would be unreasonably high. Such damages should provide compensation to offset the loss to the company's system resulting from the loss of the present load. One guideline may be the loss of incremental revenue during the period necessary to place the recaptured capital in service and again yielding a net return.

In the second case, a permissive order to which is assigned a life term of ten or more years is, in our opinion, equivalent to a franchise renewal. We think the permissive order has been used for purposes of convenience; that it is, in effect, an "embryonic rural franchise" and was not intended

to convey a perpetual service right. We would, therefore, treat it as a franchise for purposes of determining compensation at the time of its expiration.

Finally, we believe no distinction should be drawn as between a company which is a licensee under the Water Resources Act and one which is not, so far as the determination of compensation for facilities upon partial take-over is concerned.

(e) Renewal of Franchises

If a municipality fails to renew its franchise at, or prior to, the time of its expiration, the franchise presently continues in effect until such time as either party terminates it upon six months' written notice, with the approval of the Public Utilities Board. We agree with the objection taken to this provision by the investor-owned utilities who maintain that such a short termination notice gives them too little time to effect an adjustment, and creates needless uncertainty in the operation of the franchise. Accordingly, we recommend that Sec. 271-3 of the Municipal Government Act be amended to require a notice of renewal of three years prior to termination and, failing renewal, that the franchise remain in effect for this period.

(f) Regulation Under the Water Resources Act

Calgary Power holds a water power license originally

granted by the federal government and, by virtue of which, it is now regulated under the provisions of the Provincial Water Resources Act and the Regulations thereto. The Public Utilities Board Act applies to a water power licensee, subject to the Water Resources Act and the regulations made thereunder.^{1/} The other investor-owned utility, Canadian-Northland, is regulated directly under the Public Utilities Board Act.

This divided regulatory authority has several disadvantages:

- (1) Canadian-Northland points out that they are playing in the same game as Calgary Power, generating and selling power in the provincial market and raising funds in the same capital markets, yet are subject to different rules. They state that they would prefer to be regulated under the Regulations to the Water Resources Act.
- (2) As we have pointed out in earlier sections of this report, the regulatory structure provided by the Regulations is extremely complex and hence subject to difficulties of legal interpretation. Dating, as they do, back to federal legislation in 1921, the Water Power Regulations involve the legal complications of the transfer of resources from the federal government to the province.
- (3) In our opinion the trended or current cost rate base prescribed by the regulations is inferior, for regulatory purposes, to the original cost rate base used by the Public Utilities Board.

We do not think it unfair to suggest that the determination of a rate base for Calgary Power, under the Water

^{1/} Public Utilities Board Act Sec. 70-3

Resources Act, will not prove easy. On the other hand it is, perhaps a temptation to accord too much weight to the time taken and the difficulties which were encountered during the five year period which was devoted to an effort to hold a rate hearing for the company.^{1/} As we have outlined in Chapter 4, some six of the fourteen questions relevant to the determination of a rate base were not answered, as well as whether the Provincial or Dominion regulations are binding. However, by way of contrast, the Public Utilities Board took only seven months in 1969 to establish a rate base for the first time for Canadian Utilities Limited.

We think that the rate bases for both of the investor-owned electric utilities in Alberta should be determined under the same method. Rate hearings have also been held by the Public Utilities Board for two companies distributing natural gas and for Alberta Government Telephones, using an original cost, depreciated rate base. There are advantages in uniformity.

We, therefore, recommend that the Public Utilities Board Act, the Water Resources Act and the Regulations thereto be amended in such a way as to cause the rate base and the rates of Calgary Power to be determined in the same manner

^{1/} Transcript pp. 1943, 1944. Calgary Power points out that, during these five years, some eighteen months was spent by the company in preparing data relevant to cumulative returns over a period of thirty years and that the Public Utilities Board, as a result of an order in council, took time out to investigate the rates charged by the private electric utilities.

as is now prescribed in the Public Utilities Board Act for all other regulated utilities.

(g) The Power Commission as an Operating Authority

Both the present Power Commission Act and the Draft Bill contain provisions which empower the Commission to establish itself as an operating entity and to acquire property, plant and equipment necessary for the generation, transmission and distribution of power. No use has ever been made of this section.

We are of the opinion that the Power Commission can best discharge its regulatory function if it is not also directly engaged in the production and distribution of power and would, accordingly, recommend that this section be removed from the Draft Act. The present legislation to permit the province to acquire and operate its own power system could be retained and placed in separate administration.

(h) The Integration of the Power Commission and the Public Utilities Board

Representations have been made to us as to the advantages to be derived from having a single regulatory authority dealing with all aspects of the regulation of the power industry within the province. There is considerable merit in this approach.

The Power Commission has been largely concerned with the physical aspects of regulation, along with supervision of the building, maintenance and accounting of the rural electrification associations. It will have a continuing concern with the regulation of service areas and the integration of the system, which includes approval of construction of generation and transmission facilities.

We have recommended that the Commission has jurisdiction over both present and future permissive orders including the authority, upon application, to impose a life-term upon existing permissive orders. We have also recommended that the determination and/or approval of the rates should, as now, continue under the jurisdiction of the Public Utilities Board, as well as the approval of franchise agreements.

It is apparent that it is difficult to separate completely the functions of the two regulatory agencies -- the one dealing with the economic and accounting aspect, the other with the physical aspects of regulation. The economic and physical aspects of regulation are in reality inseparable. A good case in point is the establishment of a system of uniform accounting for electric utilities. Which of the two agencies is better equipped to assume this responsibility? Both are vitally concerned.

We, therefore, recommend:

- (a) That the present functions of the Power Commission be transferred to the Public Utilities Board with the inclusion on the latter Board of the individual who would, under the present method of organization, be the Chairman of the Power Commission.
- (b) That the reconstituted Public Utilities Board be then responsible for the administration of both the Public Utilities Board Act and the Power Commission Act.
- (c) Those provisions in the present Power Commission Act and the Draft Act which empower the Commission to establish itself as an operating authority should be separated from those provisions providing for regulation. The former might be administered by a separate body to be established when and if the need arises; the latter by the combined board recommended in (b) above.

The amalgamation of the two regulatory agencies should, we think, permit of better use of staff and would be consistent with a more functional organization of the regulatory agency.

A second choice would be the establishment of a combined board, similar to the Gas Utilities Board, to deal with those issues which concern both the Public Utilities Board and the Power Commission.^{1/} However, such a board, operating on an ad hoc basis as need arises, would not, in our view, provide the close day-to-day co-operation which is essential. The need for such close co-operation as between the Public Utilities Board and the Oil and Gas Conservation Board is not nearly as great as that between the Public Utilities Board and the Power Commission.

^{1/} The Gas Utilities Board is made up of the respective Chairmen of the Public Utilities Board and the Oil and Gas Conservation Board. It is chaired by a third member appointed from the judiciary.

Reservations of Committee Member W. J. Major

The writer has assisted in writing and, except as hereafter varied, essentially agrees with the foregoing report.

The areas of difference are

- (a) The principle and method of reallocating the Service Area around Edmonton. In my view changes in service areas should be determined by the regulatory authority having due regard among other factors to who can generate and/or distribute power more cheaply.
- (b) The regulation of municipally owned utilities.

Alternate recommendations and the reasons therefore are as follows:

a) Allocation of the Service Area

Facts - Calgary Power obtained permissive orders^{1/} to serve the area surrounding Edmonton. This area between the current Edmonton Municipal boundaries and the proposed Edmonton Metropolitan Area is referred to as the "fringe" area. Edmonton annexed a portion of this fringe area under and by virtue of a statute which excluded electric utility considerations. This area in which there are now two suppliers is referred to as the "disputed area".

^{1/} Permissive Orders Exhibit 39 are applied for by the utility company after the Municipal District first passes a resolution consenting to the approval by the Board and upon tacit consent of the Power Commission. The Board apparently orders approval of the grant by the Municipal District.

In January, 1961, following an earlier annexation, Calgary Power and Edmonton exchanged certain service areas, adjacent to the Edmonton boundaries, and inter alia did "surrender, assign, and transfer to the (other party) the (party's) ... right of supply ..." in the area transferred. The areas exchanged are shown on Exhibit 8, and those areas in which Edmonton has transferred its right of supply to Calgary Power are referred to as the "contract area(s)". The contract areas are within the fringe area and a large high load factor industrial power load, due to the heavy industry located near Edmonton, has developed, largely in one contract area and this industrial load area has been referred to in this report as the "industrial area".

As outlined in this report Edmonton wants to provide electric services to the entire fringe area for two principal reasons;

- (i) Edmonton asserts it ought to have the sole right to supply all utility services within its municipal boundaries. Edmonton is hopeful that its municipal boundaries will be expanded to the Edmonton Metropolitan boundaries as shown on map 2.
- (ii) Edmonton asserts it requires additional territory in which to expand its electric utility system. Calgary Power has the opportunity to

expand in a very large part of the Province
whereas Edmonton is restricted to the area
within its municipal boundaries.

Edmonton has made it very clear that it expects to pay reasonable compensation for the rights and assets which it may acquire. However, it is apparent that the compensation will be an issue with respect to the going concern value and also with respect to severance damages.

Calgary Power has a large integrated power system which provides power supply as well as distribution services throughout a large part of Alberta. Calgary Power has been supplying the fringe area and the disputed area for some years, its service is good, its customers are satisfied and Calgary Power's remaining customers throughout the province may have to pay higher rates if service areas are taken away from it.

Proposal

My colleagues suggest the regulatory agency (Board) would reallocate service areas within the fringe area upon application. They outline the areas the Board should allocate in terms which are too specific considering the evidence before us. The proposal requires that the Board be given the power to terminate permissive orders subject to terms over a fixed number of years and the power to convert permissive orders into franchises. The compensation payable is to be determined by the Board after it hears all the facts with respect to early termination. Where

a franchise is substituted the compensation payable on termination is to be fixed at the value of the "nuts and bolts" on the basis of reproduction cost new less depreciation. In my view there is much to be said for this approach, and we have deliberated long and considered many alternatives before coming to this conclusion. The area of difference, with respect, concerns primarily the implementation of the proposal particularly with respect to the industrial loads.

There are different considerations to be taken into account with respect to "generation" of electric power than with respect to "distribution". These two aspects of the business warrant different and separate consideration. Separate applications, which might be heard at the same time, should be made to the Board in order to change the service areas with respect to "distribution" and/or with respect to "generation".

An application to the Board for a variation of distribution or generation rights for parts within the fringe area, excluding the industrial area the disputed area, and the contract areas is not likely to be contentious. There must be the opportunity for Edmonton Power, to develop together with the Province and other utilities. Proposed development for example of the Land Bank which causes relatively small adjustments in power loads may result in consent orders or short hearings to reallocate service areas. The area requested on such application should include an economic area which would not isolate other areas from a convenient source of supply. The

right to serve any readjusted area would include the obligation of serving any surrounding uneconomic area.

With respect to the disputed area I do not agree that this should be allocated to the City of Edmonton because it is now within the city's municipal boundaries. This area became part of Edmonton under a statute that specifically excluded considerations of electric and other utility services.

There is some industrial load within the disputed area and this is adjacent to the large industrial load in the industrial area, the latter of which is outside Edmonton's current municipal boundaries. It has been recommended that the permissive order in the industrial area be terminated after 20 years under terms that amount to converting it into a 20 year franchise and I would suggest that perhaps a portion or all of the disputed area should be treated likewise. The Board should decide this after it has had the benefit of hearing evidence directed to this issue.

The limits of the area containing the heavy industrial load and the area adjacent thereto which can be most economically served should first be determined by the Board. I would recommend the granting of two - 20 year franchises with the usual provisions for renewal, or termination, one with respect to generation, the other with respect to distribution. Upon the expiration of the franchise the city may, if the franchise is not renewed, with the consent of the Board, acquire the distribution within the area. The same terms would apply with respect to generation. If

a change in supplier would cause a serious impact on rates in other areas of the province, the people affected must be given reasonable notice of the amount of the change, and the Board, after hearing the matter could decide whether or not to consent to termination of either the distribution or of the generation rights or both and the terms of termination.

The arguments of the municipalities are more convincing with respect to distribution than with respect to generation. Generation of power by larger units has marked advantages of scale recognized by everyone at the hearing. There is also a pollution problem, and a municipality with generating facilities within its municipal boundaries would compound its problems of pollution.

Power purchase agreements have worked well in Calgary, Red Deer and other municipalities in Alberta. In other provinces most municipalities purchase power from central generation. Calgary Power may have better prospects for the cheaper generation of power using coal with massive units, than has Edmonton using natural gas which is escalating in price. The location of future generation sites should be chosen primarily on economic and esthetic grounds. In any event the Board upon hearing the evidence directed to this issue should decide generation locations and requirements. As stated early in the report, it would be unlikely that the Board would require Edmonton to purchase a percentage of its power from Calgary Power unless it could be supplied as cheaply as Edmonton could itself generate it. In any event problems concerning

generation must be considered separately by the Board in order to best serve the citizens.

With respect to compensation on termination, if the rules are set in advance the parties can arrange their business accordingly. Compensation on termination of a franchise has been determined by the Board and approved by the Appellate Division of the Supreme Court. It is recognized that a business comprises more than "the nuts and bolts" and on earlier termination the Board must come up with a judgment figure after hearing the evidence.

The compensation to be awarded, subject to the special considerations, if any, that may apply to the contract area, will be different depending on the time allotted to effect the changes. It is therefore important that the parties themselves consider the manner of exchange and the compensation payable, and failing agreement, terms including compensation will be set by the Board. Evidence and representations as to the desires and capabilities of the suppliers, the requirements of present occupants and other relevant factors, would have to be considered. The more power equipment located in, or used primarily for an area, the longer the notice that would be required. Because of the nature of the installations and the necessity of making long term plans it is considered that the Board should not entertain subsequent applications to vary service areas adjacent to any municipality until at least a 10 year interval, being the usual franchise renewal period, has elapsed.

The industrial area is now located in the County of Strathcona and it may or may not become annexed to Edmonton within the franchise period. Totally different considerations face Calgary Power in renewing this franchise with the County of Strathcona than with the City of Edmonton. In the one case the franchise is likely to be renewed and in the other it is likely to be terminated. Accordingly the franchise to replace the permissive order should provide, in the event of annexation by Edmonton that the franchise shall be extended, if necessary, so that the remaining life after annexation of this large load be not less than 10 years.

b) Regulation of Municipally owned Utilities.

The Present Situation

In Alberta, private utility companies and The Alberta Government Telephones, a utility owned and operated by the Province of Alberta through a crown corporation, are subject to regulation by the Public Utilities Board. Utilities owned and operated by municipalities are not subject to such regulation.

The Type and Frequency of Regulation

The Public Utilities Board may (Sec. 79) on its own initiative or upon complaint in writing investigate any matter concerning a public utility over which it has jurisdiction. The Board must (Sec. 82) review the affairs, earnings and accounts of each owner of a public utility in respect of which the Board has previously set rates at least once in every 3 years.

Although the Public Utilities Board has been continuously in existence since 1915, there have been few public hearings to fix utility rates in the Province of Alberta. There were 3 public hearings with respect to telephone rates in 1920, 1926 and 1966. The last public hearings for the gas utilities were held in Calgary about 1958 and in Edmonton about 1959. There has only been one public hearing concerning electric rates in the history of Alberta although there was also an unsuccessful attempt to have Calgary Power earnings reviewed and rates set.

No one who looks at the record can state that regulation for the sake of regulation is practised in Alberta.

The first application to the Public Utilities Board for an increase in long distance telephone charges was made in 1920. The accounting system of Alberta, similar to those of Manitoba and Saskatchewan appear to have been set up to help show that the operations were profitable. In 1918 a consultant from the United States, J. G. Wray was engaged to value the plant and make recommendations on all procedures. As a result of the Wray Report, A.G.T. adopted the standard accounting procedure approved by the U. S. Interstate Commerce Commission. Today A.G.T. and almost all large telephone companies in North America, of which Edmonton Telephones is an exception, use a uniform system of accounts based on U. S. Federal regulations. The Uniform Accounting System indicated that A.G.T. was losing money in 1918, and a rate application followed.

Goals and Purposes of Regulation

Regulation is generally considered necessary as a substitute for competition where a necessary commodity is being supplied on a monopolistic basis. Regulation may also be used to assure response to consumer needs, to encourage and allow sufficient funds for technological advances, to control resource allocation by the industry, to eliminate or lessen political influences from controlling the rates required for the proper growth and advancement of the utilities.

How should the regulatory process function? Is it necessary or desirable that regulation be consistent? Should management have absolute or controlled authority with respect to financing, construction, rates and rate policy, technological innovation, employee relations and wages, productivity improvement, operations, depreciation rates and accounting procedures?

Alberta has prudently followed a practice of minimum surveillance allowing management wide discretion in running its companies. This practice appears justified by the high quality of service provided at reasonable rates.

The City of Edmonton advocated a large professional staff to undertake surveillance of the private utilities but wanted little regulation for municipalities.^{1/}

When one considers the competition of alternate sources of energy, the elasticity of the demand, the indirect competition

^{1/} Transcript p. 1842. Estimated yearly cost of \$400,000.00.

from municipally owned systems, the reliability of the service and the rates currently charged notwithstanding marked continued inflation, it appears that the current practice is adequate. It is considered that the cost of such surveillance might better be spent to the benefit of consumers on investigating prices that have markedly increased during the same period although supplied through the imperfect competition of the market place.

It is desirable, and fairness dictates, that all utility suppliers operate subject to the same rules. The return of income tax to private utility customers was a marked step in this direction, which if taken earlier, may have allowed more Canadian private utilities to survive.

Municipal and private suppliers must operate at a profit. There is no objection to the quantum of the profit being realized by any of the municipalities unless informed rate payers object. Assuming efficient management, excess profits merely represent some shift in the burden of taxation from property owners to utility users.

There is, however, grounds for apprehension as to whether for example, the Edmonton depreciation charges are within reasonable limits and whether, considering the accounting, comparisons of municipal utilities may be made in a meaningful manner. It would indeed be tragic if any municipal system became second class due to excess tax demands being siphoned from its earnings to other municipal requirements.

Throughout this hearing we have been considering the

results obtained from aggressive well-run municipal corporations during and following a period of prosperity. What may happen during a period of recession is a different story.

There is not an identity of interest between utility managers, the mayor and council, utility ratepayers and tax payers.

Regulation fosters efficiency. The requirement to render a periodic open accounting, subject to cross-examination, with respect to the various utility departments such as finance, accounting, construction, engineering, maintenance, and service is a challenge and a boon to good management. Further the obligation of the Utility Board to study municipal utility accounts would serve as a basis of comparison when considering those of private companies.

Being subject to regulation does not mean excess regulation, but it means the threat of regulation and the attendant necessity of keeping accounts in order and being able to defend them. In Alberta public hearings have been completed only when the utility companies wanted to raise their rates. The regulated utility companies have, in the past reduced their rates when earnings permitted either to avoid a hearing or to encourage consumption for greater future developments and profits.

The surviving municipal electric companies have all been reporting substantial profits, but there are few smaller municipalities currently in the electric utility generation or

distribution business. The reported profits are difficult to assess, as, excepting Calgary, the reports, notwithstanding the widespread practice of most utility companies, are not yet on the Uniform System of Accounts.

There have been philosophical arguments as to the merits of public as opposed to private ownership for decades. Alberta has the rare advantage of having the opportunity of observing both systems. The profit portion of the total amount collected by a utility is relatively small. Good management; in obtaining large sums of money at fractionally lower rates, in reducing the dollar maintenance per customer or per dollar of installed plant, in operating with a lower ratio of employees per customer or per dollar of plant invested or per unit of energy would dictate whether or not there are sufficient profits. Profits must first be earned before they are distributed to pay taxes or to pay shareholders. Cooperative associations have prospered in some areas due to good management but have not prospered in all areas. The mode of ownership is not a guarantee of success.

There is no monopoly on good management. It varies and it is better when spurred by competitive forces and incentives. Dedicated executives, professional engineers and others should work equally well whether employed by the municipality or by private industry. The interests of the people are best served by the provision of electric service at the cheapest cost consistent with the provision for long term service, and there should be no

privileges due to ownership.^{1/}

To gather information on the relative merits of the systems it would be helpful for the Public Utilities Board to develop comparison indicators between municipal and private suppliers. Admittedly comparisons of different circumstances may be misleading but the differences may be compensating and an information bank would be helpful.

If the municipalities are to be allowed to collect taxes with their systems fine, set the upper limit, give council a discretion up to such limit, and then subject all operations to the same scrutiny and control. Let it be demonstrated to the regulatory agency whether or not taxes collected are "true" or "book entries". Let it ^{be} demonstrated if the assets of the city are generating a return on capital equal or greater than the city pays for its borrowed money. The province is operating its telephone utility for the benefit of all the people of Alberta subject to the same regulation as applies to private utility companies and I fail to see why large municipal utilities should not be required to do likewise.

If the bookkeeping by Edmonton is correct then the City in reporting earnings of over 13% during a period when other regulated utilities were limited to set rates to generate about

^{1/} Sec. 297 of the Municipal Government Act carried forward from the former Acts may be an oversight with respect to electric utilities. It is unfair to make citizens co-insurers or responsible for loss unless they can prove negligence. A profit-making municipal electric utility should provide the same protection the law demands of private suppliers.

8%, is in effect imposing and collecting a hidden municipal sales tax on electric energy. Other municipalities again subject to checking book entries and cost allocations, appear to equal or exceed Edmonton in collecting a sales tax through electric utility service.

A regulatory frame work which permits the imposition of a hidden municipal sales tax only if the municipality owns and operates its generating and/or distribution system imposes an incentive on municipalities, who need new sources of revenue, to get into the power business. Smaller municipalities do not have the advantages of scale available to large centers and some of them who were in the power business in the past were not able to operate at a profit and relinquished their systems. It is important that in considering future expenditures, municipalities not be misled as to the quantum of the profit.

With respect to the quantum of the profit, it is difficult if not impossible to compare municipal figures prepared for municipal purposes with utility figures prepared pursuant to the Uniform System of Accounts for utility purposes. Further in operating a utility as part of a large city business which may also operate a water utility, a sewer utility, a transit utility and in the case of Edmonton a telephone utility as well as providing roads, parks and other services there are "allocations"

of sums spent for multiple purposes, which may distort the true profit picture. There are political pressures on succeeding municipal councils to report utility profits, reflecting good management, and hence lower property taxes, at least as great as that of their predecessors. Further, one of the largest items of expense in a capital intensive industry is depreciation. Depreciation expense is a real expense as equipment wears out but this expense is difficult to assess in a large system. Edmonton while acknowledging an awareness of this problem has not yet completed a depreciation study.

The Edmonton depreciation charges which are made up of various "allocated sums" including sums based on debenture requirements appear in need of serious study. Depreciation charges if understated, result in overstated earnings and conversely if overstated result in understated earnings.

Eli Winston Clemens, a leading economist, who was called by the City of Edmonton to give evidence in the 1959 Gas Utility Hearings, is not considered opposed to municipal ownership of utilities and he has stated:

"...there is much to be said for a system of

checks and balances in which public ownership and regulated private industry each offset the other. There is even something to be said for the regulation of publicly owned utilities, as no less than twenty-four states have indicated by their statutes ..."1/

"The writer believes that publicly owned utilities have much to gain from good regulation and that complete protection of the ratepayer requires it. The utilization of utility earnings for municipal purposes is similar to a regressive tax that benefits relatively wealthy property owners at the same time. Too, like other sales taxes, it is an easy source of revenue..."2/,3/

"It is not beyond belief that the privately owned utility industry may insist that its healthy survival is necessary as a yardstick to measure the performance of public ownership. This is the essence of wisdom. True competition would require equality of taxation, ..."

"...Private enterprise must remain vigorous to afford a continuous competitive challenge and an ever present alternative under conditions of fair competition."4/

"It seems that the best policy is one of competition between private and public enterprise. Both should exist as alternatives to the other. The threat of public ownership has continuously placed privately owned utilities on their mettle. The TVA has been a salutary challenge to private ownership in the entire south. On the other hand the rates and service of private utilities should stand as a benchmark and criteria to evaluate the performance of publicly owned utilities. Local utilities - either publicly or privately owned - are monopolies and are wont to lapse into the managerial lethargy that so often characterizes monopoly. Only under the quickening spur of competition actual or potential, from an alternative type of ownership will management be truly efficient. One may question many of the practices of private enterprise without possessing an inordinate faith in the beneficence of public ownership."5/

1/ Op cit Clemens p. 420

2/ Op cit Clemens p. 576

3/ Professor Hansen agreed that the tax was regressive but found it less so than property tax. Transcript p. 263

4/ Op cit Clemens p. 680

5/ Op cit Clemens p. 579

There are four areas in which my colleagues agree that the regulation of municipal utilities is warranted and these are set out on page 146. We have also recommended that the Regulatory Agency should adjudicate and readjust service areas outside of municipal limits as well as regulate construction of new generation and the interchange of power. The Board should become as familiar with the affairs of municipal operations and as responsible therefore as it is with the affairs of private companies in order that it may as fully appreciate the abilities of the municipalities.

In summary, regulation of municipally owned systems appears advisable and is recommended because:

1. It promotes efficiency.
2. It allows more meaningful comparisons.
3. It allows a meaningful accounting of stewardship.
4. It lessens or removes political influence.
5. It eliminates some wasteful acts like the building of two power lines on the same street.
6. It may eliminate the need for future government intervention to extricate municipalities from difficulties.
7. It places all competitors under more comparable rules.
8. It is necessary in part for physical integration of the power systems and reallocation of service areas.
9. It may be necessary in any event if large areas outside municipal boundaries are to be served by the municipality.

SUMMARY OF ALTERNATE AND ADDITIONAL RECOMMENDATIONS

- (i) The reallocation of the disputed area should be left to the Regulatory Agency and should only be determined after evidence is heard directed to the issues.
- (ii) Distribution rights and generation rights in the Industrial Area should be considered and dealt with separately.
- (iii) The length of time or life-term on termination of permissive orders should be left to the Regulatory Agency to determine after it hears evidence directed to the issues in each of the separate areas.
- (iv) Applications to vary service areas adjacent to municipalities should not be made more frequently than once every 10 years.
- (v) Franchises that replace permissive orders should provide, in the event of annexation, that the life of the franchise after annexation shall be not less than 10 years.
- (vi) Municipally owned utilities should be regulated in the same way as privately owned utilities provided that municipal council may in their discretion request rates to yield, in addition to a fair return, a fixed maximum percentage of total property taxes.

E X H I B I T S

<u>No.</u>	<u>Description</u>	<u>Transcript Page</u>
1.	City of Edmonton Brief	25
2	City of Red Deer Brief	26
3	City of Calgary Brief	26
4	City of Lethbridge Brief	26
5	City of Medicine Hat Brief	26
6	Calgary Power Brief	27
6A	Appendix to Calgary Power Brief	27
7	Canadian Utilities Brief	27
8	Document titled Fringe area Exchange Agreement, January 1, 1961	58
9	Annual Report of City of Edmonton 1967	83
10	Agreement between the City of Edmonton and Alberta Government Telephones	83
11	Statement of Kidder, Peabody & Co. Incorporated	114
12	Report re City Telephones and Alberta Government Telephones	299
13	Agreement, City of Edmonton and Calgary Power re interchange	307
14	Edmonton Power Report	340
15	Copy of contract between the City of Red Deer and Calgary Power	377
16	Financial Report of the City of Red Deer for the year ended December 31/67	379
17	Edmonton Generation and Water Treatment Annual Report dated 1967	407

18	The City of Calgary Electric System 1967 Annual Report	407
19	Map, Distribution and City Limits Calgary	449
20	The City of Calgary, Annual Report 1967	448
21	Letters respecting services outside respective designated areas	452
22	Power Committee Report of October 3, City of Calgary	452
23	Permissive Order	474
24	Calgary Power contract with the City of Calgary	474
25	Financial Report of City of Red Deer, year ended December 31, 1967	495
26	Financial statements of the City of Lethbridge for the year ended December 31, 1967	496
27	Annual Report 1967 of Canadian Utilities Limited	614
28	Annual Report 1967 of Northland Utilities Limited	614
29	Financial Statement of the City of Medicine Hat	643
30	Annual Report of the Utilities Division of the City of Medicine Hat for 1967	643
31	Sheet showing rate comparisons from the City of Medicine Hat	643
32	Schedule A Electric Rates - Classification of City of Medicine Hat	704
33	Qualifications of Marshall M. Williams	770
34	Document entitled Standard Rate Schedules Calgary Power Ltd.	779
35	1967 Annual Report of Calgary Power Ltd.	781

36	Document entitled "Calculation of percentage of Total City General Revenue provided by Utilities"	919
37	Letter setting out Assessment and Taxes, 1968, for Calgary Power Company in the City of Calgary	920
38	Letter from the Alberta Power Commission addressed to Calgary Power Limited dated April 15, 1958	969
39	Permissive Order #15724 dated August 12, 1954	969
40	Supplementary Submission of the City of Red Deer	970
41	Prospectus, 15-Million Dollar Bond Issue, Calgary Power Company Limited	1047
42	Prospectus, 12-Million Dollar Bond Issue, Calgary Power Company Limited	1048
43	Edmonton Journal Article of September 27, 1968	1060
44	The Fourteen Questions by the Utilities Board, December 16, 1964	1061
45	Statement of the Qualifications of Charles F. Mallory	1073
46	Statement of the Qualifications of Harry G. Schaefer	1073
47	Statement of the Qualifications of J. W. Newby	1074
48	Document entitled Calgary Power Limited Estimated Income Tax Eligible for Rebate, 1966, 1967	1078
49	"A Research Report from the Conference Board"	1093
50	Letter from R. D. Hall, Utility Director City of Lethbridge addressed to Mr. F. Pritchard, City Solicitor City of Lethbridge dated October 2, 1968	1312
51	Document headed Data for Burton Committee Rate Base and Rate of Return as estimated	

	by Company accountants dated October 4, 1968	1312
52	Document headed Analysis of Investment in Fixed Assets Canadian Utilities and Northland Utilities for the years 1951 to 1968 dated October 4, 1968	1312
53	Prospectus headed Canadian Utilities Limited, New Series, \$8,000,000.00	1312
54	Document, Method of Calculating Depreciation Canadian Utilities undated	1313
55	Document, Method of Computing Depreciation, Northland Utilities	1313
56	Document entitled Calgary Power Limited Rate of Return Calculation 1967	1314
57	Document entitled Calgary Power Limited Fixed Charges 1967	1315
58	Newspaper Clipping from Edmonton Journal dated September 23, 1968	1317
59	Letter dated October 8, 1968, to W. J. Major from Scoyoc	1321
60	Letter dated December 13, 1968 to City of Edmonton from Scoyoc	1322
61	Document from Edmonton Power dated December 4, 1968	1322
62	Document by Calgary Power dated December 10, 1968	1322
63	Document by Calgary Power dated October 16, 1968	1322
64	Document by Calgary Power dated November 19, 1968	1323
65	Document by Calgary Power dated December 9, 1968	1323
66	Document by Calgary Power dated December 6, 1968	1323
67	Document from R. L. Shantz to B. V. Massie dated December 14, 1968	1323

68	Two documents - Price Indexes of Electrical Utility Construction 1956-65 and Price Indexes of Electrical Utility Construction, October 4, 1968	1566
69	Document, A. D. Stewart from R. M. Skinner, January 16, 1969 (Reproduced at Page 1660)	1652
70	Document from Ontario Energy Board	1655
71	Report on Depreciation Methods - Edmonton Power January 7, 1969	1656
72	Copy of letter from Canadian Industries Ltd. re Energy Costs, December 18, 1968	1656

<u>Witnesses Called</u>	<u>Transcript Page No.</u>
His Worship Mayor V. M. Dantzer	49
Nicholas J. Coolidge	113
John R. Bousfield	155
Melwood Van Scoyoc	185, 1337
Dr. E. J. Hanson	253
Dr. V. Salyzyn	268
S. J. Hampton	279
Denis Cole	356
W. L. Scott	383
George Cornish	409, 453
Robert Douglas Hall	496
Egerton W. King	525
Radford L. Schantz	618, 1331
Marshall M. Williams	770
Charles F. Mallory	1067
Harry G. Schaefer	1067
Jack W. Newby	1067
A. B. Holmes	1555

DATE DUE

NOV 12 2004

DEC 01 2010

DEC 01 2010

